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MORE NEWS, MORE REVIEWS

# Macworld

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## *Mac magic*

**Digital video made easy**  
Best camcorders tested  
+ Expert iMovie tips

**Buying a Mac**  
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**Mouse trap**  
Optical input tested

**Dreamweaver 4**  
Reviewed

**Mac OS X explained**





**Simon Jary**  
editor-in-chief

Apple needs to think different itself, and sacrifice some of its adverts' slickness to address real issues for real people.

## Supermarket sweet

**B**efore Steve Jobs returned to the company in 1997 there were hardly ever any Apple adverts on the telly. Now, you can't turn on *Ally McBeal* or *Frasier* without catching cameras smooching round an iMac like teenage boys round a Jennifer Lopez calendar. And when it's not the Indigo iMac with Elvis' *Blue Suede Shoes* playing in the background, it's Jeff Goldblum extolling the virtues of iMovie or telling us how easy it is to connect a Mac to the Internet.

The ads are classy, slick and heart-warming to all of us who already own Macs. The casting is aspirational in a Hollywood-type of way. The music is vogueishly retro – even a million cheeseburgers couldn't stop Elvis being cool. And the slots Apple has chosen to air its ads in are usually around smart, urbane television shows: *C4* comedy seems to be the favoured strand.

Microsoft's hardware partners are forever on our screens. Generally, the standard is low and aimed at the lowest common denominator.

Which is exactly where Apple should be aiming a lot more of its TV-ad spend if it wants to seriously increase its market share. Those Time Computer ads that behave like DIY superstore commercials do actually make *Blind Date* viewers go out and buy computers. The same goes for those revolting Tiny Computer ads with the giant Mickey Mouse arm that cuddles computer novices who have laid out a pretty penny on a bundle of PC goods so beige that it looks like they've installed a sand pit in their living room. And what's with the staff at PC World who enjoy nothing better than stamping their feet on the floor so hard that the whole shop sinks into the ground?

They all make me retch, and I often feel like I'm watching people being abused into buying cheapo PCs that have all the robustness of an Airfix tri-plane model and all the design-savvy of the worst council-estate tower block. But these ads really do work.

They work on levels that the Apple commercials wouldn't dream of stooping to. I get the impression that Apple doesn't want *Surprise Surprise* viewers to go anywhere near it – in case their low-rent values somehow taint the company's gleaming brand qualities. Apple is just like the main character in its ad-supported *Frasier* sitcom: so snobbish that it's actually scared of the people it looks down on.

Apple's rumoured plans to create its own chain of shops to promote and sell its products on the high street (see News, page 18) are good news for us all. Even today's resellers should welcome the news: it will certainly increase the Mac's visibility to the shop-crazy general public.

Walk into any Dixons or Currys high-street store, and you'll see row upon row of Windows PCs. A year or so ago, there were iMacs too – but the staff knew so little about the Mac OS that they didn't even try to sell them. Apple has made some grand promises to rectify this situation through training programmes and reward schemes, but what the company really needs to do is get more Macs out there in front of people. A chain of Apple shops is an expensive but long-term solution to its shrinking market share.

The iMac is a real alternative to the Windows PC. Starting at just £649 (including VAT), it's cheaper than any similarly featured rival PC. It's better designed and built, easier to learn, simpler to use, and nicer looking than anything on offer in Dixons, Time or PC World.

Both Gateway and PC World use their TV adverts to show off their store-based customer care. This intelligent marketing allays one of the greatest fears that computer novices have about buying a computer – technical inability. Apple's early iMac ads were also sensibly aimed at such fears – namely, the novice's terror of setting-up, installing and using something with so many cables, plugs and funny bits.

Jeff's smooth tones were reassuring – so much so that the iMac quickly became a best-seller. In the new iMovie ad, Jeff shows us how easy it is to make digital movies. It's not the most exciting of ads, but it does point out one of the iMac's many practical applications.

The Indigo and Ruby iMac TV ads are as pretty as Jonathan Ive's colourful plastics. If Apple raises its profile among the non-Frasier Cranes of this world, I'd put money on people eyeing up and remembering Apple's computers more than Gateway or Dell's dull boxes.

Not for years has Apple had such a great opportunity to sell more of its computers to new users. The Internet is so pervasive – on TV ads, billboards and telly shows – that even die-hard luddites are feeling left behind. The iMac is a proven killer attraction for such customers, and Apple has built on its class by adding even more appealing free features, such as iMovie and iTools.

There's no point spending millions on TV ads if people can't go out and actually buy your products. The majority of AppleCentres are too hidden away for the *Blind Date* crowd to seek out. Apple shops on the high-street would make a massive difference. For Apple to significantly improve market share, it must be prepared to fight it out with Time and Tiny. And if that means its commercials being less slick and more schlock, then so be it. It's time to woo those people who don't think different – and to do that Apple itself must take that catchy slogan to heart.

MW

**“Apple is like Frasier Crane: so snobbish that it's actually scared of the people it looks down on”**

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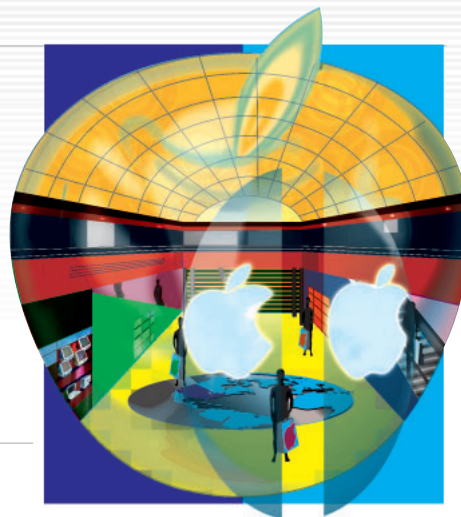
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Win a digital-photo  
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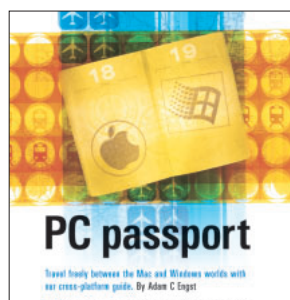
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**Subject: Apple's schoolroom folly**  
Last month's star letter in December's *Macworld* asking why there aren't more Macs in schools has can be answered thus: cost, availability, and lack of software. When my wife took over as principal of our local primary school in 1997 there were four computers: an ancient Acorn, two Mac Performa 5300s, and a Mac laptop for her own use. The OS was ancient and there was little software.

There's no local Mac reseller and no local support, and the cost of new equipment, available only by mail order, is prohibitive. This year, despite my best efforts to update the school's Macs' OS and programs from my own stock, the school still bought six PCs at £500 each, with masses of free software. The range of educational software available in local shops is amazing. There are also copious downloads available, and many of the children bring in software from their own PCs, or complete projects at home.

These machines are perfectly adequate for school use, and parts which the children break or lose are cheap to replace. Advice and upgrades are also available from four local stockists.

There's no longer any point in buying a computer which is built to last 10 years when the OS will be obsolete in two, and, besides, in education, cost is everything. Apple has priced itself out of this market.  
*Colin Lindsay*

### Your Star Letter wins a copy of Office: Mac 2001, worth £410 (ex VAT)

We reward the best reader letter with a copy of Microsoft's Office: Mac 2001. This is the integrated package that Office 98 should have been. The applications Word, Excel and PowerPoint now employ a common interface and are joined by Entourage – a personal-information manager and messaging client.

Write to Letters, Macworld, 99 Gray's Inn Road, London WC1X 8UT.

Or email [letters@macworld.co.uk](mailto:letters@macworld.co.uk)

#### Subject: Consumer step-up plea

Apple needs to produce machines to bridge the gap between its high-end range for creative professionals and its low profit-margin machines for punters. If the steps up the range are less steep, Apple will surely discover that more of its customers at the consumer end will be willing to progress up the range when buying new machines. Two machines would achieve this: a monitor-less iMac and a pro iBook.

*Manolis Kroussaniotakis*

#### Subject: OS X a world beta

I read Paul Markham's letter slagging off Mac OS X in the November's *Macworld* with interest. All I can say, Paul, is you deserve nothing more than the Windows environment.

I am using OS X Public Beta and would never go back to OS 9. I've never seen a beta ship with such quality engineering. It hasn't even been optimized for speed and compatibility.

*Rui Batista*

#### Subject: OS X revolutionary

I'm looking forward to Mac OS X finishing the computer revolution that Apple started with its iMacs. With a Unix engine and protected memory, OS X is set to be the best OS yet – putting Apple in a position to lead the rest of the PC market for another five years.

*Alvin Chan*

#### Subject: BT gets my Mac up

I signed up for a single-user USB BT OpenWorld account on 22 April. By May there was still no sign of the service and I learnt that Macintosh users were waiting up to two months longer than Wintel users for ADSL, due to a lack of modem drivers. In October I hit the six-month anniversary of placing my order and decided

### Star Letter: Macs a graphic success

I am one of two partners of a successful graphic design company, and Apple has played a crucial role in this success. Without Macs, my career path would have taken a very different direction. Until 1995, I was computer illiterate, but found the transition from easel to Macintosh simple.

I don't feel I've ceased being an artist but, rather, that my medium has changed – and that my work is the better for it. Apple's smooth, refined interface is a pleasure to use. Although I'm also familiar with Windows, I could never use it full-time, because using a PC always feels like using a computer instead of a design tool. Microsoft may be monopolizing the software market – but Apple has the most refined operating system around and has put it in the best-looking and most compatible computer.

Whatever the future holds for Apple I won't forget that the company has helped shaped my life for the better.

*Nick Barclay*

I was on Mac mission to find out what was going on. Still no Mac drivers, I was told. A cynic would say that British Telecom doesn't care how long it takes to rollout ADSL, because in the meantime it is making more money off our normal telephone bills – one

disadvantage of dealing with a monopoly. BT has no ADSL competition from other companies because they need access to local telephone exchanges to install their own ADSL equipment – but these are owned by BT, who says there's no more room in them. It's just not good enough.

*Andy Smith*

#### Subject: BT holding-up e-economy

BT recently launched BT Surftime, through which we get unmetered calls after 6pm and all weekend. Big deal. The service is five years late and offers second-rate Internet access. Oh, and who is the only ISP that seems to be able to supply it? BT Internet. Big surprise there, then.

Then there's ADSL. It's a

brilliant technology which should change our lives. However a decent 2MB connection costs £479 a month! In the US it costs £25 a month.

Why does the government let BT get away with this? Doesn't it realize that cheap and freely accessible high-speed Internet connections are the way forward for e-commerce in the UK? While BT squeezes yet more cash out of its long-suffering customers, the country will drop further behind the US, Asia and Australia, as we pay through the nose for syrup-slow Internet access. BT should be run by the state at no profit.  
*Edward Cooper*

#### Subject: Home sighway

Many people complain about the performance of their second phone line installed for Internet access. This is usually caused by a device called a DACS unit, that is installed by BT. It effectively squeezes two phone lines into the single old one. This, of course, limits the bandwidth available to each new line, hence the speed problem.

And what happens when you complain to BT about the reduced speed? You get offered Home Highway! Spare me.  
*Stewart Hardwick*

#### Subject: Confidence booster

I've been looking for something to replace an ageing PC, which I use mainly for Internet access, emailing and word processing. Having experienced the usual PC and Windows problems of missing files, things that can't be uninstalled and incompatible hardware, I began to think of buying an iMac.

I bought *Macworld* to help guide me, and have to say that last month's letters page made my heart sink: stories of Apple's lack of customer loyalty, OS X problems, hardware incompatibilities – the list was endless. I was beginning to lose hope when I read Colin Lindsay's letter, which told me what I needed to hear: his Mac with OS 9 had always run perfectly. Maybe I will buy one after all.  
*Stewart Hardwick*

#### Subject: Taking liberties

I enjoyed – but disagreed with – David Pogue's thought-provoking column "Secrets and lies" in December's *Macworld*. In it, he claims that protecting our privacy online is a double-edged sword. He suggests that it's better for marketers to know our tastes, so we only get hit by online ads for those products that we're likely to want. Well, I like Macs, but don't want Apple sending me its sales material either by post or e-mail.

David also says that only those who have something to hide are afraid of online surveillance. Where do we draw the line? Does this mean, for example, that closet homosexuals can no longer enjoy the odd spot of porn online? Has no one the right to enjoy a private life.  
*Pascal Harris*

#### Subject: Secret-police ball

David Pogue's column Secrets and Lies makes life online sound just wonderful: "Don't worry,

## The naked Sim city

Aspyr Media's The Sims has captured the imaginations of Mac gamers – so much so that some aren't stopping at just playing the game. Not content to merely control the lives of their virtual creations, some gamers have created skins and patches to liven up The Sims. Here's some of our favourite Sims downloads:

- **Nude Patch:** Now your Sims can walk around wearing only a smile. This patch also removes the blurry spot that appears when the Sims shower.
- **Slot Machine Patch:** Install a slot machine in the living room, and watch your Sims fulfil their tiny dreams of avarice.
- **Bill Clinton Patch:** This is one of the many skins that changes the look of the Sims – in this case, giving them a striking resemblance to a certain commander in chief.
- **Monica Lewinsky Patch:** If combined with the Nude Patch and the Bill Clinton Patch, this patch just spells trouble.
- **Marijuana Plant Patch:** It's just there for decoration – don't expect to see your Sims turning on and dropping out.



- **Teleporter Patch:** Boldly go where no Sim has gone before.
- **Bill Gates Patch:** This Sim looks like the world's richest man.
- **The Plague patch:** Buy a guinea pig, and watch in horror as it unleashes a virus that destroys your Sims, your game, and your God complex.

even though you're paranoid, they're not out to get you." Why doesn't he tell that to the people who were the victims of the East German STASI, the Russian NKVD and other secret-police organizations who collected information. Societies' laws may change, Mr Pogue, but not always for the better.  
*David Sherwell*

#### Subject: PR stock-price debacle

In his column "Time to take stock" in December's *Macworld*, Michael Prochak made some interesting points about the ludicrously low price of Apple stock. With a cash float of \$4 billion the present valuation of Apple at \$6 billion is patently low. Someone badly needs to let these Wall Street Wintel-users know why they've got it wildly wrong. Don't Apple have publicists or press officers? And don't they have any contacts with papers such as the FT? Come on Steve Jobs – as well as creating cool ads, you need also to get on top of your company's press relations.  
*David Knopfler*

**Subject: Kodak camera cock-up**  
Shame on Kodak for not making its budget USB-camera, the EZ200, available for the Mac. For the sake of a piffling driver the company opted to alienate millions of potential buyers.

I for one will not be supporting or buying Kodak products until they rectify this situation.  
*Lennox Boyd*

#### Subject: Aversion to versions

In the old days, a software's version was simply a sign of what stage it had reached in its development; people knew that between v1.0 and v3.0 would be v2.0. Things, though, have changed. Now, new versions seem to have more to do with marketing than common sense. Today, applications leap from, say, 4.7.6 to 6.0. Why?

Also, upgrades are bugger these days and sport changed interfaces for no apparent reason – so that one is effectively learning a new application instead of upgrading.

Take Adobe Illustrator. Version 6 was stable, had a clean interface but 7 is designed to resemble Photoshop. The result is a cluttered interface and more bugs. Illustrator 9 is the most buggy version of the application ever released.

Strange, but among the few exceptions are Microsoft applications, which, albeit slowly, only ever seem to improve.

Do developers see upgrades as a service to consumers or a way to make cash?  
*Gábor Szabó*

**Subject: Apple should show off**  
Last weekend, I went to a computer exhibition held at the Feria de Madrid. The show was full of companies that deal with Microsoft, mobile-telephone companies, computer suppliers, and program suppliers. In the midst of this mix, Apple had an excellent stand. Around the large Apple stand were companies supplying Mac peripherals and software.

If Apple can do this in Spain, why not the UK? Why does Apple not take space at "ordinary" shows in Britain, to fly the logo in front of all computer users and convert the masses to Apple? Then there would be no worries about there being no UK-only Apple Show  
*Raymond Flack*

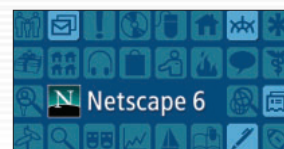
#### Subject: Apple still on its niche

Apple long ago missed its chance to be the world's leading computer platform – but now another chance may present itself. I have read in many places that PC users love Mac OS X and would love a version of their own.

Alas, Jobs is likely to miss his second shot at world domination and will no doubt keep Macs – barring iMacs – the niche products they've always been.  
*Freddie Fricker*

This month there's full versions of Netscape 6 and RealPlayer 8, over 20 demos and trials, and all the latest shareware and updaters – plus some splendid games for added Christmas cheer! Vic Lennard plays Santa...

## MAIN ITEMS



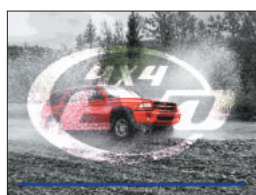
## Netscape 6

Netscape 6 now has fewer buttons and a simpler user interface with a larger viewing window. Bookmarks, home page and My Netscape page are in the personal toolbar; at the bottom of the window, the task bar gives you quick access to channels and tools. Themes to customize the look-&-feel, fast and convenient search from the Location Bar, search results in My Sidebar, multiple mail accounts and identities – Netscape 6 has them all. MacOS 8.6 or later and 64MB RAM required.



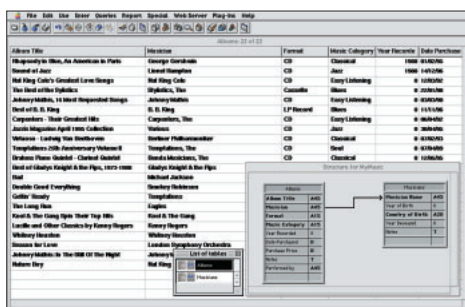
## RealPlayer® 8 Basic

Play more than 85 per cent of Web audio-visual and streaming MP3. Includes the integrated Real.com Media Guide and Real.com Radio Tuner, making it easy to choose from 2,500 Internet radio stations. RealVideo 8 offers enriched video quality and smoother playback while the free iQfx 2.0 Basic from QSound adds punch to your audio.



## 4x4 Evolution demo

Arcade-style, 4x4 off-road simulator puts you behind the wheel of a truck with the challenge of serious off-roading. Choose your own path through gates, trees and numerous obstacles. Rewind the action via the playback feature and view the whole race from multiple camera angles. Demo is limited to Nissan Xterra and Pathfinder, and two tracks – but Time Attack, Quick Race and Multiplayer are all enabled. Requires MacOS 8.6 or higher, G3 or better, 3D graphics card with 4MB VRAM, and 64MB available RAM.



## 4th Dimension 6.7 demo

4D version 6.7 offers a professional suite of application and Web-development tools. Building upon an award-winning legacy of over 15 years of relational database expertise, it provides unprecedented ease and flexibility. For newcomers and established users, version 6.7 offers a most compelling development environment. Demo is limited to 50 records per table, 20 forms, and 20 methods per database.



## Eye Candy 4000 demo

A collection of 23 time-saving Photoshop-compatible filters that combine practical effects like shadows, bevels and glows with stunning effects like Chrome, Fire, Smoke and Wood. Includes five new filters, new Bevel Profile and Color Gradient Editors, seamless tiling and unlimited 'undo'. Demo limited to three active filters plus previews of the others.



# Cover CD JANUARY 2001

## INSTALL

Before you start working your way through the software on our CD, go to the System Utilities folder and make sure you install the following:

### ■ Acrobat Reader+Search 4

Install this version to be able to read many of the on-screen manuals.

### ■ Stuffit Expander & DropStuff

Versions 6 and 5.5 are included.

### ■ System tools & ATM Lite

The CD also carries the latest version of InternetConfig, UnZip 5.32 and ATM Lite 4.6.1 (required for Suitcase 9).

### ■ QuickTime 4.1.2

Some programs require QuickTime 4.1.2. This can be downloaded from [www.apple.com/quicktime/download](http://www.apple.com/quicktime/download).

## INSIDE MACWORLD



### Astrology 2.5

Computes and interprets astrological charts – type in birth information and the chart appears. Demo only establishes themes for birth years ending with '5'.

### HeftyFTP 1.5

Queue-based FTP client. Automatically retries connections and resumes downloads/uploads. Latest version has numerous changes. Shareware.

### IgorEngraver 1.2

Intelligent scorewriter and music engraving tool that offers MIDI playback, pro-level printing, cross-platform scoring, and a user-friendly interface. Freeware.

### GraphicConverter 4.0

Converts pictures to 130 different formats. Contains many useful features for picture manipulation. Incredible number of new features. Shareware.

### MacPopUp 2.1

Allows Macintosh users to exchange instant messages with other users on any local area network. Latest version includes enhanced user search. Shareware.

### plus...

Boris Continuum 1.0 demo  
Finale 2001 demo  
MacDICT 1.4.2  
NetDICT 2  
Spark XL 1.6.1 trial



### Poplar Charts demo

Powerful way to convert information into graphics. Requires Illustrator 8.

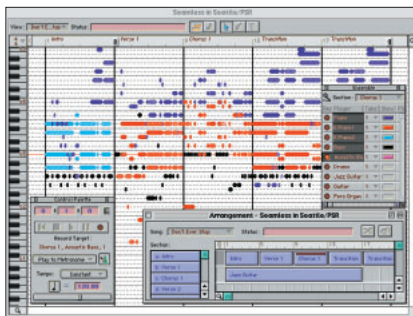
## CD CATALOGUE



Courtesy of Mark Pirri's superb DiskTracker program, Macworld brings you a searchable catalogue of all our CDs from 1997 to 2000 – almost 198,000 files! This will grow month by month to allow you to find any file you want, without wearing out your CD-ROM drive. The latest version of DiskTracker (2.0.3) is also included – don't forget to register if you find our library useful.



## SERIOUS SOFTWARE *includes*



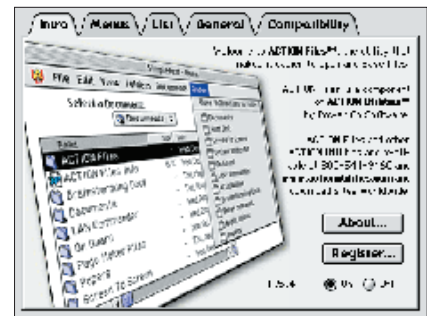
### FreeStyle 2.31 demo

FreeStyle is a trackless sequencer with instant music notation. Create compositions intuitively using ensembles, players, takes and arrangements. Get inspired with FreeStyle's dozens of drum riffs. Notate your performances as you play. See your music on screen exactly as it will print. Get started quickly with built-in support for dozens of popular MIDI instruments, including any GM device. FreeStyle provides both tape recorder and drum machine style composing. The demo version is save disabled, it limits Riff Metronome patterns to four bars, and it lets you print only the first page of your score (with a watermark).



### MegaSeg 1.4.1 demo

MegaSeg is the Mac's premiere DJ music player. It allows you to consolidate all your music on your hard drive, and then segue between them for a professional DJ presentation without the need for extra CD players or mixers. Load your CD tracks into MegaSeg, and with the built-in database and search engine, you'll be playing requests faster than ever! MegaSeg can also play MP3 and QuickTime files. Includes N2MP3, Proteron's MP3 encoder. The MegaSeg demo is a full functional version that runs for 15 minutes per session. Requires 180MHz or better PowerPC processor, Mac OS 8.0 or better, and QuickTime 4.1 'Full' install.



### ACTION Files 1.5.4

ACTION Files is the fastest way to manage and organize files. It adds menus of commands at the top of every Open and Save window, standard and Navigation Services, that help you to get more information, create new folders, make aliases, duplicate files and folders, rename items, or move any item to the trash. Find files quickly and easily, by name, size, kind, label, creation date, modification date, file type, creator and more without leaving an Open or Save window. Latest versions have fixed compatibility issues with Mac OS 8.1 and earlier, and with BBEdit 6, Photoshop 6, Illustrator 9, Microsoft Word 2001 and Codewarrior. Try in full for 30 days.

# Cover CD JANUARY 2001

## GAMES WORLD



### Cro-Mag Rally demo

You are a speed-hungry caveman who races through the Stone, Bronze and Iron Ages in primitive vehicles with an arsenal of primitive weaponry. Two players can play on a single computer in split-screen mode, or up to six players can play over a network. This demo version of Cro-Mag Rally lets you play the first two tournament tracks and the first two battle tracks. All game modes are enabled, including the multi-player split-screen and network modes. This demo expires after 45 minutes of play. Requires 233MHz blue-&-white G3 or better, Mac OS 8.6 or later, 64MB available RAM, 3D graphics card (6MB VRAM), CarbonLib 1.0.4, QuickTime 4.1.2 and Game Sprockets 1.7.3.



### Hoyle Casino 5 demo

We're talking real Vegas-style excitement here. Step into Hoyle's virtual casino and you'll see a huge variety of games and thrills among the sounds and sights of the gaming floor. There's always a place at a table and a nice bankroll in your wallet. Enjoy the animated, interactive opponents with their friendly banter, plus easy-to-use interface.

While the full version has nine different games with more than 350 variations, the demo is limited to \$5 Blackjack and Double Red White & Blue quarter slots, but includes tutorials and hints on betting and strategy.

It requires a PowerPC processor, System 7.5.3 or later, and 16MB available RAM.

## FAULTY COVER CD-ROM?



•If your cover disc is broken and you want a replacement CD, please contact Kelly Crowley, on 020 7831 9252, or email at [kelly\\_crowley@macworld.co.uk](mailto:kelly_crowley@macworld.co.uk).  
•If your cover CD doesn't seem to work as it should, please check you have read all the instructions on the cover disc pages carefully first. If it still doesn't work, then please email Woody Phillips at [woody@macworld.co.uk](mailto:woody@macworld.co.uk).



## DEMOS & GAMES



Nanosaur Extreme!

Other demos this month include updated versions of **Tanks of Terror**, **Nanosaur Extreme!** and **Pac the Man**.

This month's Top 10 Shareware Games are a nice mixture of board and card games plus a smattering of the arcade variety.

On the board-game front, there's **Down&Out** 1.0.1, where a grid of pebbles have to be cleared, **Plunk!** 1.0.1, a nice variation on the matching tiles games, **Runestone** 1.0.1, and the latest version of **Σ Chess Lite**.

For card gamers we have **Elemental Battles**, a powerful electronic version of War, plus **Hearts** 3.1.1 and **Mac500** 1.0.1.

And for arcaders there's the latest incarnations of **MacSnake** 1.5, **ManicMinefields** 1.4.2 and a good one for the younger members of the family, **Space Bug** 1.1.

## ALSO ON THE CD



### COMMS & INTERNET

18 applications including:  
**Cookie Dog** 1.0.3  
**HTML OptimizerPro** 1.8.2  
**PageSpinner** 3.0.1  
**WebSiteManager** 1.6

### EDUCATION

Four programs including:  
**English-Italian Dict.** 6.0  
**Vocab** 1.8.1

### FONTS

Six items including:  
**FontBuddy** 2.0.2  
**SmoothType** 2.2.1

### GRAPHICS



Nine items including:  
**CADintosh** 3.7.2  
**Etchelon Macdoodle** 2.1  
**GLUON PresenterActive**  
**Rainbow Painter** 1.9.3

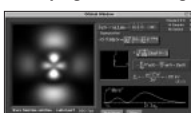
### INFO



1984 OnLine issue 29  
**ATPM** 6.11  
plus two other items and  
10 utilities for developers

### MATHS & SCIENCE

Seven programs including:



**Atom in a Box**  
**earthbrowser** 1.3.4  
**Poly Pro** 1.08

### SCREENSAVERS

Four items including:  
**BlackWatch** 1.5.4

### USER INTERFACE

13 utilities including:

**Finder Workspaces** 2.2  
**Glidel** 5.1.1  
**Power Windows** 2.4.2  
**Wapp pro** 2.8.1

### VIDEO

Five applications including:  
**BTV Edit/View** 4.1.1

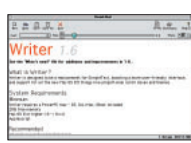
### UTILITIES

11 categories comprising  
over 50 useful tools for  
your Mac including:



**AutoCat** 2.9  
**AutoPurge** 2.5.1  
**Calendar2000** 1.3.2  
**Disk Label Printer Pro** 1.2  
**Drag'nBack** 3.6  
**Finance** 4.0  
**LineSort** 4.8.3  
**Mac Army Knife** 2.3.1  
**MacFamilyTree** 2.4  
**AutoCat** 2.9  
**AutoPurge** 2.5.1  
**Calendar2000** 1.3.2  
**Disk Label Printer Pro** 1.2  
**Drag'nBack** 3.6  
**Finance** 4.0  
**LineSort** 4.8.3  
**Mac Army Knife** 2.3.1  
**MacFamilyTree** 2.4

**Tex-Edit Plus** 4.0.3  
**Vistas XT** 1.0



**Writer** 1.6.1

### UPDATERS

This month's dedicated  
updaters folder includes  
80MB of patches to  
bring many popular  
applications bang  
up-to-date, including:  
**Adaptec Toast/Deluxe** 4.1.2  
**Adobe LiveMotion** 1.0.2  
**BBEdit** 6.0.1  
**Connectix VGS** 1.4.1  
**EMagic Platinum** 4.6.1  
**FlightCheck** 3.9r3  
**Hermstedt ISDN CD** 11  
**MarkzTools** 8.05  
**Norton AntiVirus** 5-7 (11/00)  
**RAM Doubler** 9.0.1  
**SoundJam MP** 2.5.2  
**Virex** (11/00)

## DON'T MISS...



### Cool Extras

**Anagrams 2.0** – see what  
you can make from one  
of your friend's or  
family's names!

**AppleScript Games** –  
10 simple diversions to  
wile time away...

### Mac ISPs

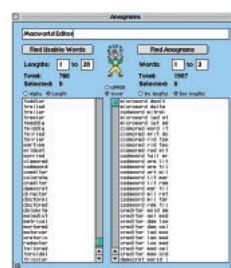
Internet access offers from  
**Abel gratis**, **AppleOnline** and **LineOne**.

### Internet Explorer

Complete package for IE 5.

### Plus...

... many thanks to Simon Youngjohns for our CD icons.



## SHAREWARE



Shareware is a distribution method, not a type of software. It makes fitting your needs easier, as you can try before you buy. Shareware has the ultimate money-back guarantee – if you don't use the product, you don't pay for it. If you try a Shareware program and continue using it, you are expected to register. Support shareware authors so that they continue to provide high-quality programs for the Mac.



# Brand new Apple in

**A**pple plans to boost sales with the launch of a chain of Apple-branded stores in the US. A report in the *Wall Street Journal* claims that four stores are planned initially. These include a 6,500-square-foot facility near Steve Jobs' home in Palo Alto, California, and a 28,000-square-foot outlet in Chicago.

Given Apple's new emphasis on boosting sales at retail, and its decision to push aggressively into the consumer market, it's possible that the storefront strategy could be extended internationally – though Apple sources refuse to confirm or deny these reports at this time.

News of the Palo Alto store first came from the town's architectural review board, which saw a preview of the store's design. The building will reportedly feature "two white Apple logos illuminated on glass doors".

"People are really excited about it," one board member said in an interview, "because it's going to open late at night so that computer freaks can wander in and try the equipment."

The *Wall Street Journal* suggests that the stores will carry a minimal inventory of products, hinting that

**"If these stores are to be similar to NikeTown then building the brand this way could boost sales for everyone"**

– Garrett Doyle – MD, MacLine

Apple is following the example of Gateway, which operates 315 own-brand stores in the USA.

UK resellers are broadly supportive of the move. Garrett Doyle, managing director of UK mail-order company, MacLine, says: "This could be a good idea, but it does depend on Apple's execution. If these stores are to be similar to NikeTown, then building the brand this way could boost sales for everyone, and that's a good thing. If they open stores willy-nilly, and are sales-driven, then that could damage resellers."

Maneesh Patel, managing director of Mygate, agrees: "Brand stores could boost sales across the line", he said.

## Mid-range PowerBook is cut by £450

**A**pple has slashed the price of key products across its range. These include the mid-range PowerBook and multi-processing Power Macintosh G4s. It follows Apple's recent decision to offer rebates of £250 on Power Macintosh G4 Cubes. Apple has cut the price of its mid-range PowerBook by £450 in the UK, with equivalent discounts being applied across the European Union. The 500MHz model now costs £1,899, (ex VAT)

though the price for other models remains the same. The mid-range 500MHz, G3 PowerBook has a 14.1-inch TFT XGA display, 1MB L2 cache, 128MB RAM (supporting up to 512MB), a 20GB hard drive, DVD-ROM, 8MB video-RAM, a 56K internal modem, two USB ports and two FireWire ports. All FireWire-equipped Macs ship with iMovie 2, Apple's consumer-level video-editing software.

### Power Macs cheaper

Apple is also offering rebates of £250 and £400 respectively on its 450MHz and 500MHz multi-processing Power Macintosh G4s, but only until December 31, with a four- to six-week delay until the rebate is despatched. Power Mac G4 servers are not covered by

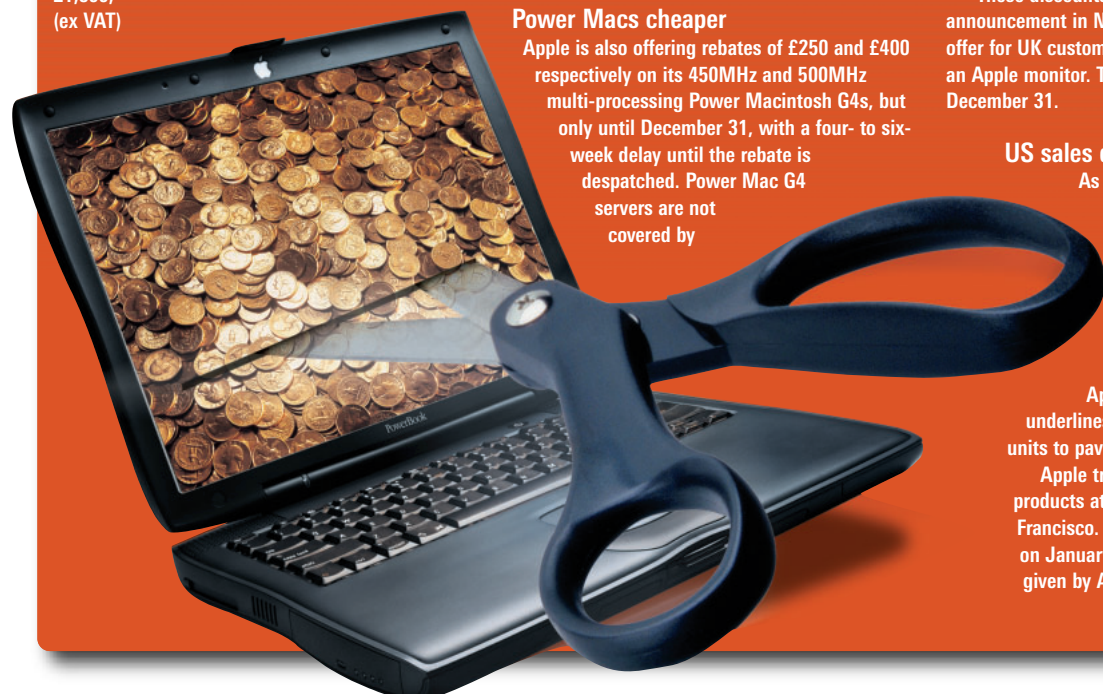
the rebate offer. The 450MHz costs £1,749 (£1,499 with rebate); and the 500MHz £2,449 (£2,049 with rebate). Both computers ship with built-in FireWire, an ATI RAGE 128 Pro graphics card and a choice of 20GB, 30GB and 40GB hard drives. iMovie 2 is pre-installed, and the high-end G4s ship with built-in DVD drives, 1MB of backside L2 cache (on each processor) and Gigabit Ethernet as standard.

These discounts follow Apple's announcement in November of a £250 rebate offer for UK customers buying a G4 Cube with an Apple monitor. This offer remains valid until December 31.

### US sales decline

As *Macworld* went to press analysts were reporting a decline in US personal-computer sales, suggesting this is causing a build-up of inventory for all computer manufacturers, including Compaq, Dell and Apple. They add that this underlines Apple's need to shift units to pave the way for new models.

Apple traditionally announces new products at Macworld Expo, San Francisco. Macworld San Francisco opens on January 9 with a keynote speech to be given by Apple CEO Steve Jobs. MW



## store

Neil Wright, head of marketing at Computers Unlimited, said: "I sympathize with smaller resellers who might see this as a threat, but if I was Apple I'd see it as a way to extend Apple's brand identity. Brand shops become browsing shops for a lot of people. And raising brand-profile could boost sales for everyone – as long as there is a consistent pricing policy."

The lack of high-street access to Apple products has been a long-standing complaint in the Mac community.

Jeff Curzon-Berners at Mac-&-More said: "For this to work, it's got to be done well, like the Sony shops. But Apple has never done anything very well – there's been a history of cock-ups in the company."

On Apple's high-street retail partners, Curzon-Berners warned: "I think there's a danger. iMacs in Tesco stores could end up reducing the value of the brand."

Recent research from brand-consultancy firm, Interbrand, revealed Apple as the 36th most valuable brand in the world, and the 11th best-known information-technology company.

### Retail presence

During its financial results call last October, high-ranking Apple executives openly discussed the strategic importance of building its retail presence, as well as the profile of its products and its brand.

Apple CEO Steve Jobs believes the Apple brand to be one of the company's greatest assets. He set the tone for his return to Cupertino by hiring ad agency TBWA/Chiat-Day to produce the Think Different campaign, which concerned brand awareness.

Apple retail-plans maintain a pattern that Jobs established when he pulled the plug on the Mac-clone programme shortly after his return as interim CEO in 1997. Jobs boasts that Apple makes the "whole widget" – system hardware and software and applications as well. If Apple wants to sell the widgets too, resellers could be facing difficult times.

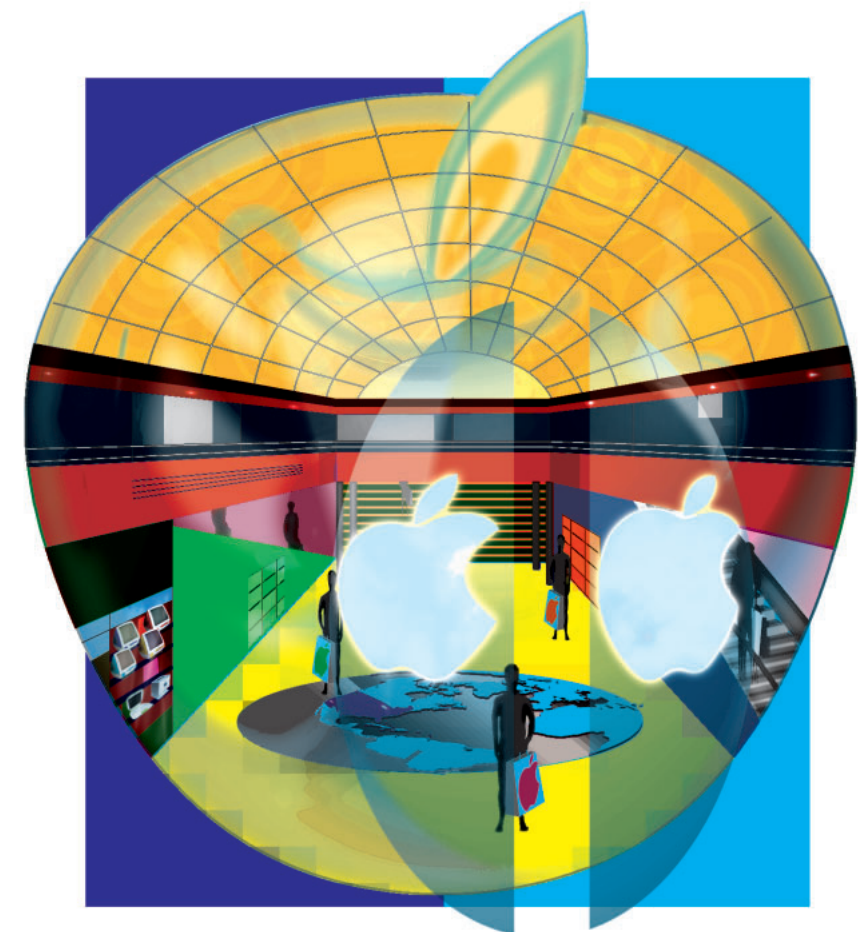
Curzon-Berners is philosophical: "I can't blame them, things are difficult for Apple at the moment. I think Apple believed the Cube would take over the world and they've had to knock hundreds of pounds off of multiprocessing G4 Power Macs. But the big threat remains the decline in iMac sales. I believe this is because iMacs are not expandable."

What hurts Apple hurts the dealers too, he revealed. November has been an atrocious month for us," he said. "If they open Apple-branded stores in the UK, there is a risk that they could put resellers out of business."

### Sop to Retailers

To pacify US resellers, Tim Cook, Apple's senior vice president of worldwide operations, told them that Apple had no plans to open retail stores. The meeting took place in October 2000. Tom Santos, general manager of US reseller, Macadam, said: "The impression from the October meeting was that Tim Cook is a nice guy that Steve Jobs was listening to. And now that appears not to be the case," Santos said.

In November 1999, Apple's then-senior vice president



of worldwide sales, Mitch Mandich told resellers that it would be "years" before Apple opened any stores. Mandich has since left the company.

Santos said: "I'm not afraid of competing with Apple for retail customers. Apple doesn't understand what its dealers do. Retail is not just about moving boxes, it's about product knowledge, knowing the customer's needs and service, including support for older models," he said.

Maneesh Patel, marketing director of Mygate, said: "I have a problem with Apple's TV ads. I do not believe they are appropriate to the UK market. I think Apple should develop the benefits of their products, rather than simply showing a blue box. I don't believe the message gets through strongly enough to potential customers."

"They need to make their marketing relevant to the local market," he concluded. MW

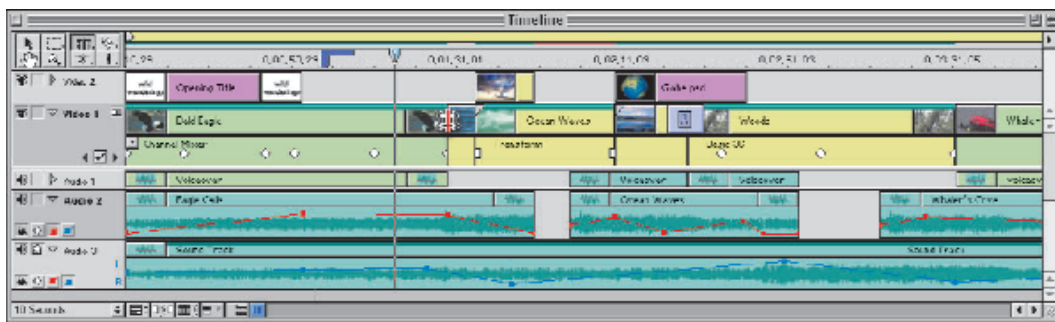
Stephen Beale, Jonny Evans

## MacFest roadshows a first

MacLine, AppleOnline and Macworld have teamed up to organize the MacFest roadshows. These unique events will see major names from the Mac industry gathered under one roof in a series of UK locations.

The spring MacFest roadshow runs from 13-14 March at the Novatel, Hammersmith, London. The second event is on Friday, March 16 at Manchester's Contact Theatre. More dates will be announced in due course.

The roadshow will feature the latest technologies from leading manufacturers, software companies and service providers. There will also be a seminar program, with talks from top Mac companies. Visit [www.macfest.co.uk/register](http://www.macfest.co.uk/register) to register for the events.



### Time for change

Adobe Premiere's new Save for Web feature exports the Timeline directly into Terran Interactive's Media Cleaner, allowing for the output of multiple files in popular formats, including QuickTime, RealMedia and Windows Media.

## Premiere 6.0's Web feat

Adobe has announced Adobe Premiere 6.0, the latest upgrade of its professional digital video-editing solution. The application has been built to accept digital-video input, but can also deliver Web-ready video output. Adobe's product line is being given a common look-&-feel, and Premiere 6.0 is designed to be familiar to Photoshop or Illustrator users.

Premiere 6.0 supports a wide range of digital-video input devices from a range of manufacturers. Go to [www.adobe.com/uk](http://www.adobe.com/uk) for details.

Premiere's ability to deliver Web-ready video content in a single step is the most significant addition to the application. It can now output to all leading Web-video formats, Adobe claims. Premiere offers three tools for optimizing and exporting to Web-ready formats.

The first, Save for Web, is a simple, menu-based feature that outputs multiple files, optimized for streaming or progressive download in popular formats, including QuickTime, RealMedia, Windows Media, MPEG and others. The application does this by exporting the Timeline directly into Terran Interactive's Media Cleaner. The application can also output into formats ready for high bandwidth delivery, such as Windows Media Player and RealPlayer.

The second is Premiere 6.0's ability to set Timeline markers to launch HTML Web pages at relevant points during Web-video playback.

The third is Automate to Timeline, a feature that helps video artists develop projects. Selected sequences of clips, or whole bins, can be sent directly from the Storyboard or Project window to the Timeline. Clips can be



dropped here, and choreographed to the audio sequence.

The FireWire-friendly application sees improvements in other areas, too. It now supports non-square pixels and DV presets. The Movie Capture window has been enhanced.

One new feature is Device Control Customization (DCC), which involves built-in presets for DV sources. When a source is selected, Premiere 6.0 now optimizes its control through DCC to the most effective available setting.

### Accessibility

The new Settings tab also makes capture settings easily accessible from within the Movie Capture window. Video-capture settings, capture locations and device controls can all be controlled here. Another feature, the Logging Tab exists to help log video-clips, set In and Out points, name clips and reels and batch-capture multiple video-clips.

The Project window in Premiere 6.0 displays new Preview and Bin areas, and all files connected with a project can be viewed here. New in version 6.0's Preview area is the ability to play a clip from within the Project window. Information about the clip is also visible, including frames per second and average data-rate.

Another feature developed to help editors identify which clips they are working with involves the use of poster frames, used to represent a clip. These can now be changed – from the clip's default first frame to any selected frame. Premiere 6.0 also offers a Storyboard window, which helps visualize stories by drag-&-dropping clips to assemble rough cuts. Clips can be edited and markers inserted using the window.

The new Audio Mixer window has been designed as a professional-level tool for blending multiple audio-tracks and dynamically adjusting gain and pan with real-time feedback. Audio Mixer controls resemble those of a studio mixer-console, and this works in conjunction with the Monitor window.

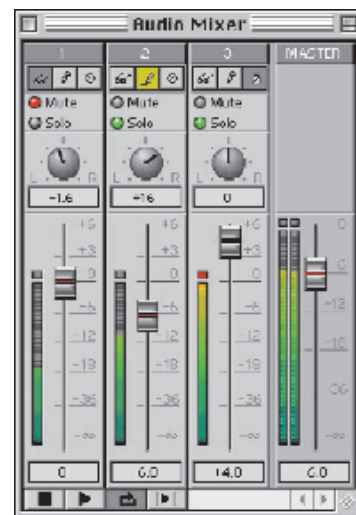
Premiere's palettes have been added to and enhanced. Like Photoshop palettes, these offer access to various filters, an undo capability and effects controls. The new History palette offers 99 selective undos, while the Video and Audio filters give immediate access to Premiere's video and audio effects and filters.

Premiere 6.0 ships with a SmartSound Quicktracks CD, which offers custom-length royalty-free soundtracks. The application also ships with Adobe Acrobat viewer and QuickTime, which comes with movie and audio clips. Premiere 6.0 is expected to ship in the first quarter of 2001, and will cost £410.

Adobe, 020 8606 4001

### Sounds good

The new Audio Mixer window can blend multiple audio-tracks, and its controls resemble those of a studio mixer-console.







# Crowds rally to Mac video



## Leading from the front

Alias|Wavefront was among those companies at Digital Media World showcasing products designed to promote moving-image creativity for film, video, games, special effects and post-production.

Here, Alias|Wavefront's 3D-animation application Maya – which is due to port to the Mac on the release of Mac OS X early in 2001 – draws a crowd.



Apple enjoyed a busy Digital Media World, as the industry continues to embrace the company's raft of video-friendly products. At the London show – held November 14-16 – Apple ran a series of seminars and training sessions.

"The training area was jam-packed all day," claimed an Apple spokesman.

He added: "The presentations were packed for demonstrations of QuickTime 5, Mac OS X, Final Cut Pro and iMovie 2. Although at first, visitors were unsure of OS X, they soon became excited by it. OS X is definitely going to succeed."

Other exhibitors included Macromedia, Sony, Newtek, Iomega, Avid, Obtree, Alias|Wavefront and Computers Unlimited.

The companies were showcasing products designed to promote moving-image creativity for film, video, games, special effects and post-production, as well as multimedia and Internet-content creation.

Macromedia's Sarah Mowatt said: "The impact of convergence in digital media is affecting the way people are looking at the industry. We split our exhibition between Flash 5 and Dreamweaver 4."

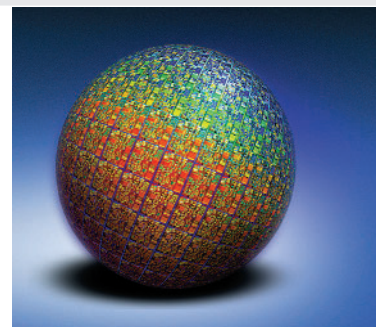
## But is it art?

Graham Toms, of Newtek, makers of 3D application Lightwave, said: "We've seen a lot of people who create content, or artists looking into moving into 3D design and video."

"The problem with people at the high-end of this industry is they're hiring technicians to make their 3D products, rather than artists."

"This isn't an industrial revolution, it's a renaissance. Many companies mistake content for creativity," Toms pointed out.

Talking up next year's show, event director Jane Stewart said: "In 2001 the games industry is going to become very important, as will video-on-demand." **MW**



## Pentium 4 'too slow' for business apps'

Intel's new Pentium 4 processor isn't as fast as expected, PC lab reports claim. Independent reports from hardware-testing site Tom's Hardware Guide (THG), and *IT Week* show that the 933MHz Pentium III outperforms the 1.5GHz Pentium 4.

A 1GHz Pentium III processor outperformed a 1.5GHz Pentium 4 clocked back to 1GHz in 75 per cent of performance benchmark tests, according to THG.

Intel expects the chip to account for half its desktop sales by the beginning of 2002.

The P4's chipset features Intel's NetBurst architecture, which includes a rapid-execution engine that executes basic maths instructions at twice the speed of the rest of the processor. This means that the chip performs best when running graphics-intensive software, such as design software and 3D games – but flags when processing general business software.

The news is a welcome respite for PowerPC-maker Motorola, which has received criticism for failing to match the Pentium's MHz ratings. **MW**



# MPEG-2 Compaq lawsuit is shot across Apple bows

MPEG LA ([www.mpegla.com](http://www.mpegla.com)) has taken Compaq to court, alleging infringement of patents relating to MPEG-2 video-compression technology – the heart of DVD video-playback.

The complaint against Compaq is that it makes computers that use patented – but unlicensed – MPEG-2

playback methods. The suit may well be extended to Apple, as MPEG LA ([www.mpegla.com](http://www.mpegla.com)) has contacted the company, explaining "that a problem may exist".

When Apple recently released QuickTime 5 Public Preview, there was surprise that it lacked MPEG-2 support – something now explained

by Compaq's lawsuit. But if QuickTime gains MPEG-2 capabilities, the company could be at risk – unless Apple agrees to MPEG LA's licence.

The lawsuit has been filed on behalf of a group that includes General Instruments, Mitsubishi, Philips, JVC, Matsushita, France

Telecom and Columbia University.

MPEG LA's vice president of licensing Larry Horn revealed that Apple has not been named in the lawsuit. However, Horn did go on to say: "It's no secret that we have sent them many letters and many correspondences." **MW**  
Peter Cohen



# Oracle makes Mac the business

**B**usiness-software giant Oracle has announced that the Macintosh has been certified for use as a client with its E-Business Suite, a comprehensive set of business applications accessible through Web browsers. Oracle and Apple say that they will promote the suite in the education and small-business markets, and Oracle says that it will use the Mac in its sales demonstrations.

This is a big deal for Macintosh users as the announcement means a comprehensive suite of Internet-enabled business applications is now available to them for the first time.

Larry Ellison (pictured above in the main screen), Oracle's CEO, said: "The certification of our E-Business Suite for the Macintosh proves that

**"We've got a lot of customers who are going to jump for joy over this" – Steve Jobs, Apple CEO**

Apple and Oracle products work together seamlessly – every application we make works with the Mac today."

Ellison also sits on Apple's board of directors, and is a good friend of Apple CEO Steve Jobs.

Oracle's E-Business Suite is a full collection of Web and Java-based applications that companies can use to put their customer interactions, internal operations and supply chain details online. It means companies can communicate internally between departments, and externally to customers and suppliers. All Macintosh users need to access Oracle's solution is a Mac browser and Apple Macintosh Runtime for Java 2.2.3 (MRJ).

"We're thrilled that our education and business customers will now be able to manage their organizations using Oracle's market leading e-business applications," said Jobs. "We've got a lot of customers who are going to jump for joy over this."

## Oracle partners with Apple

Oracle's E-business suite supports Mac OS 9.0.4, and OS X support is promised in 2001. In a joint statement, the companies revealed they would be "conducting a series of joint e-business initiatives in key Apple market segments, including education and small business."

Apple and Oracle are beginning a series of higher-education seminars in 100 top US colleges and universities. Apple UK's plans for demonstrating the new-to-the-Mac solution remain hidden at this time.

Apple and Oracle are also teaming up to promote Oracle's hosted online services for small business – these include Oracle Business Online and OracleSalesOnline.com – these offer users access to enterprise-business applications and sales-automation capabilities. Oracle has also boosted its support services, expanding these to offer support for the Mac client.

## Macs on the payroll

One major US education customer, Yale University spoke about what the provision of this new solution from the companies would mean to it. Indy Crowley, director administrative systems, information technology services, said: "This certification will enable our faculty and administrative staff using Macs to access our enterprise Financial and Human Resources/Payroll systems, and will provide expanded flexibility to meet Yale's strategic objectives of streamlining administrative processes and improving service."

Oracle's Ellison and Apple's Jobs have a relationship that goes back years. In Apple's darkest moments, Ellison has been discussed as a

potential take-over leader. Michael Malone, in his book *Infinite Loop* records Ellison's feelings for Apple: "Apple is the only lifestyle brand in the industry. It's the only company people feel passionate about. My company, Oracle, is huge; IBM is huge; Microsoft is huge; but no one has incredible emotions with our companies."

## Apple's dumb friend?

Ellison has long been a champion of the network computer, the so-called "Dummy Terminal". These machines are basically client computers with little or no functions on-board. Instead, they work by accessing applications, information or entertainment over a network. Oracle's Java-based services, Business Online and OracleSalesOnline offer a similar service for small business, in that the applications are Java-based and hosted by Oracle – and accessed over a network.

During Apple's financial results call last October, Jobs discussed the future of Internet appliances and handheld computers. He predicted

a collision between these and mobile telephones "soon". He also talked of the challenge of creating such machines that could offer compatibility with emerging Web standards, or software solutions.

However, in an interview during Apple's Worldwide Developers Conference in May this year, Phil Schiller, Apple's VP worldwide product marketing, went on the record to deny that the company had plans to enter this market.

## Sun shines out on Steve

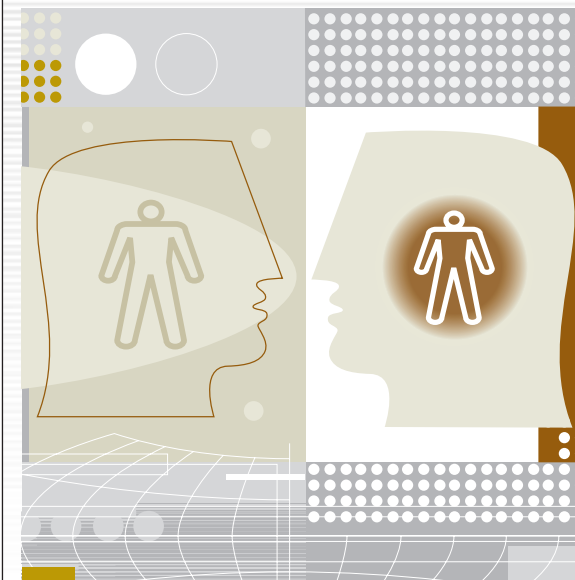
During the JavaOne conference in June, Jobs promised that OS X would offer "the best Java platform on the planet – right out of the box".

Java programs require only a Java-enabled Internet browser, and some kind of computer to run. Scott McNealy, CEO of Java-creator Sun Microsystems, calls Steve Jobs a "personal hero".

This, combined with Ellison's dream of network computers and the Unix core of the soon-to-be-released Mac OS X, could open new markets for Apple.

MW

## Adobe Calendar 2001



The prestigious Adobe Calendar 2001 is out now, including work by regular Macworld illustrators, Daniel Mackie and Simon Pemberton, as well as others such as Paul Wearing (his work, above). See all the Calendar's graphics at [www.macworld.co.uk/adobegallery](http://www.macworld.co.uk/adobegallery).

# OS X: an operating system just for Macs?

**Who is Apple building its next operating system for – its customers or Oracle CEO Larry Ellison's?, asks David Coursey.**

Let me put it another way: Isn't it strange that a company that long ago lost its enterprise customers is building an enterprise OS?

Larry Ellison has been cast in the role of Apple CEO Steve Jobs' best friend; he made an abortive attempt to buy Apple during the darkest days of its restructuring; and his appointment to Apple's board of directors was among Jobs' first acts after taking control of Apple in summer 1997. People keep expecting this to amount to something, but so far it hasn't. Maybe the wait will be rewarded sometime in 2001?

■ Mac OS X is a Unix-based operating system, more like NeXTStep and OpenStep than the Mac operating systems that have come before.

■ Oracle's products run on a variety of Unix flavours, though I had a hard time finding a list on the company's Web site. Oracle presumably could port its database and other products to OS X with little stress or strain.

■ Larry has the worst case of Bill-envy imaginable, and seems fixated on turning Oracle into Microsoft. Having failed with his Network Computer, an alliance with an invigorated Apple would present an operating system and hardware platform he could control – one that already has a customer base.



■ The Mac OS user and programming interfaces are a big change from the current Mac OS 9. Bigger than Apple has made previously, and bigger than is probably wise if making current customers happy were really the main goal.

■ OS X seems eminently portable to Intel and other processors, which makes sense considering the persistent rumours that PowerPC could be on borrowed time (see page 29).

■ In a move more symbolic than market-savvy, Oracle has just certified a Mac client for its e-business suite. Maybe this is just the first step.

If this sounds like I am suggesting a future that includes Intel or Sun-based OS X servers running Oracle databases, it's because I think that could be the plan. The danger is it could take Apple almost entirely out of the hardware business. It's hard to imagine Apple building or competing head-to-head with Intel boxes running its operating system, although I suppose anything is possible.

PowerPC, Intel, or both? The loss of hardware revenue would be very hard on Apple, maybe even insurmountable. That may be reason enough not to port OS X to Intel chips and hope sales of high-end database servers give the PowerPC a boost.

There may also be things Oracle could do to make OS X a preferred server platform for its customers, although I am not enough of a database or Unix expert really to comment on this beyond mere speculation. But if this happened, it would give Apple a corporate customer base and credibility the company never really had in the past.

## A new Microsoft competitor?

I think I am outlining a wise plan for Apple and Oracle to follow. One that builds on its strengths, creates a powerful partnership, and gives OS X credit as something beyond an improved home for Photoshop and Illustrator. Maybe I am even describing a scenario to bring Apple into Oracle as an operating system and hardware business as part of an overall plan to compete with Microsoft.

Or maybe I am just connecting the dots in a way no one at either Apple or Oracle intends. But I have to think the idea has at least occurred to Larry and Steve, and maybe we've been watching a prolonged and very stealthy positioning for an Apple/Oracle alliance.

David Coursey writes for ZDNet UK ([www.zdnet.co.uk](http://www.zdnet.co.uk)).

MW





Feral wild for Mac games

Smash-hit Feral Interactive games now porting to the Mac include Theme Park World (left) and Championship Manager 2000/2001 (right).



## Top games make play for the Mac



**F**eral Interactive has released three games titles for the Mac: Theme Park World, Championship Manager 2000/2001 and Who Wants to be a Millionaire?

Theme Park World is the Mac-port of the title, which has already sold over one million copies worldwide on the Windows platform, a tenth of these in the UK. A demo is available direct from Feral's Web site ([www.feral.co.uk](http://www.feral.co.uk)). The full version costs £34.99 (inc VAT). The original Theme Park title was released by Bullfrog Entertainment five years ago and has sold over four million copies globally.

In the game, players build a theme park and manage every aspect of running it. Theme Park World is staffed by employees (see left), who need to be managed to keep the show rolling. Theme Park World requires 64MB RAM and Mac OS 8.5 or later running on a 266MHz (or faster) G3 or G4 processor.

### Online fun parks

Theme Park parks can be published online – and downloaded by other players. Another community-friendly feature is the Snapshot mode. This can be used to capture images that can be sent as email postcards.

Championship Manager Season 2000/2001 is the newest version of the football-management simulation and costs £24.99. The game has been hotly anticipated by football-loving Mac fans. It's the second of the Championship Manager series to

appear on the Mac (see *Macworld*, January 2000), and has been updated with new data and even better gameplay, reflecting the 2000/2001 season. New features include the ability to play 26 concurrent leagues, and accurate profiles and histories for 50,000 players, managers and coaches – collated by a dedicated team of football fans. The transfer system has also been improved.

### Armchair managers

Other new features include full international simulations, letting armchair managers pit their clubs against international teams in a variety of tournaments. The game is also compatible with the soon-to-be-released Data Editor which will let players edit the enormous Championship Manager database to keep it fully up to date. The Data Editor will be available for download

from Feral. The company planned to include this when the product shipped. Explaining the delay on its Web site, the company says: "We underestimated the number of programming issues to be resolved for it to work well on the Mac."

The game is being released simultaneously with the Windows version. A demo version will be on next month's *Macworld* cover CD.

Who Wants To Be A Millionaire is the simulation of the UK's most successful game show. It costs £29.99, and is one of the UK's best-selling Windows, Playstation and Dreamcast titles. The simulation contains over 1,000 questions and uses Chris Tarrant's voice and the original music from the show. As a simulation, however, the game will not issue cash prizes, whatever your final answer.

Softline, 01883 745 111

Jonny Evans

## Sims are living it large...

Aspyr Media has launched its holiday titles, including the long-awaited The Sims Livin' Large Expansion pack. The Sims is an immersive simulated life-game that puts you in charge of all aspects of an imaginary person or family's existence. The Expansion Pack adds a selection of new jobs, architectural elements, furniture, accessories and physical appearances. The pack requires the original game to function, and is currently available. UK pricing had not been set at press time.

Aspyr has also released Star Trek: Voyager – Elite Force, a Mac port of the PC title. It's a first-person 3D action game that puts players in charge of an elite fighting force. A multiplayer LAN and Internet-ready "Holomatch" mode is also included. The game costs £34.



# Chips down for Motorola?

**S**peculation is rife that Apple may dump Motorola's G4 chip in favour of CPUs from Advanced Micro Devices (AMD), or Intel. The rumours began after Apple software engineer Wilfredo Sanchez revealed he had compiled Apple's OS X-related Darwin OS to run on a PC.

Darwin is the foundation of Mac OS X, but does not include elements such as the Quartz imaging-engine, or the Aqua graphical user interface. Nevertheless, developers claim Apple could port its next-generation OS to PC hardware with relative ease – if it were willing to make trade-offs, such as abandoning Classic Mac applications, or forcing them to run in a slower emulation environment. However, Apple and its developers would face the challenge of managing dual-hardware platforms, because there would still be a huge base of Macs with PowerPCs.

"If Apple were to devote time and resources to this project, it could definitely be done," said Bob Murphy, chief technical officer for ShadeTree, whose business includes porting other companies' applications to Mac OS X. Apple declined to comment.

Sanchez' achievement with Darwin came on one specific PC configuration, and Apple still does not offer PC installers for download. To get Darwin – and ultimately Mac OS X – to run on different configurations, Apple would need to develop new drivers for the mouse, CD-ROM, memory controller and other components. Manufacturers would have the option, as they do now, of making their hardware work with Apple's generic drivers, if available, or of creating their own.

Developing the required drivers would be a modest engineering challenge for Apple. "Drivers are straightforward – I don't think Apple is facing research problems here," Murphy said.

James Berry of Critical Path Software agreed that creating drivers is a well-understood task, but said it still requires a significant allocation of resources. Critical Path offers driver development and Mac OS X porting services. "Creating these drivers would not be so bad if Apple sanctions a specific hardware configuration for a new x86 Mac," Berry said.

If Apple followed its tradition of designing systems from the ground up – rather than simply porting the OS to generic PC hardware – its engineers could drastically reduce the number of drivers needed."

Scott Anguish of StepWise, a longtime OpenStep/Cocoa developer, believes that Apple will take this approach if it decides to embrace AMD or Intel: "Apple would likely ship a proprietary box instead of going the PC-clone route," he said.

## Off-the-shelf solutions

Apple uses many off-the-shelf PC components, such as USB, PCI and ATA, and their requisite controllers are all capable of supporting an x86 CPU. However, Apple continues to make its own memory controller, this would have to be redesigned to work in an x86 system, said Chris Cooksey, director of engineering at XLR8. Because it uses a different addressing scheme than the one used in PC systems, the Mac's current UniNorth memory controller would not provide data in a format that the new CPU would understand.

However, replacing the controller would be relatively simple, Cooksey contested, noting that one of numerous off-the-shelf x86-based memory controllers could be used in a new Mac-motherboard design.

Apple could conceivably get AMD or Intel to design a CPU that operates on the existing Mac motherboard, but it would be "much easier to change the memory controller than to redesign the CPU", Cooksey said. He added that redesigning the x86 would defeat one of the goals of moving to



that hardware – economies of scale.

The higher layers of Mac OS X would need some debugging and optimization for peak performance on an x86 CPU. However, developers claim that the code rests high enough above the Darwin kernel that this work would be relatively straightforward.

Experts say applications written in the Cocoa and Carbon APIs (application program interfaces) should work fine in a hypothetical Mac OS x86 configuration. However, this wouldn't be the case for Classic Mac applications. To support Classic, a future Mac OS x86 would require a PowerPC emulator, which would suffer the same performance drawbacks seen in SoftWindows or VirtualPC on the Mac. Berry added: "It would be easier to move Mac OS X to another processor than it was to move from Mac OS 9 to Mac OS X."

David Read

**"It would be easier to move Mac OS X to another processor than it was to move from OS 9 to OS X"**  
– James Berry, Critical Path Software

## Gene boffins turn to Macs

Molecular Sensing has announced its Genedrive and DNA smartcard, two new technologies that put the Mac at the forefront of sci-tech.

The Genedrive fits inside the drive bay of Power Mac G4s and has been developed as a tool for conducting DNA and RNA identification. The DNA sample is contained, amplified and detected within a credit-card-size device – the single-use DNA smartcard. Genedrive has been developed as a tool for healthcare professionals and genetic scientists.

These products are small, smart and easy to use – Molecular Sensing claims Genedrive will prepare an



amplified DNA sample in 8-15 minutes. The analysis procedure relies on what Molecular Sensing calls: "Conductivity changes during amplification, rather than fluorescence." This means the process is dry, and makes the process of DNA analysis and identification much faster. Traditionally, DNA and RNA testing has relied on fluorescent dyes and so-called wet chemistry.

Apple recently launched a section online dedicated to the use of the Mac as a scientific tool ([www.apple.com/education](http://www.apple.com/education)).





# XPress 5.0 remains in pipeline

## RAM prices falling

**R**AM prices are at the lowest for two months – but, as we went to press, had begun increasing once again. Prices for 128MB RAM for a 350MHz iMac vary from £60 to £100, while 256MB costs between £200 to £300.

Sanjay Patel, manager of SRS Systems, said: "Now is the breaking point to see if low prices are maintained. You can buy 128MB today for the same amount you could buy 64MB four weeks ago."

## Memory mountain

An oversupply of RAM has caused the low prices. Taiwanese manufacturers are said to have been flooding the market in an attempt to rescue their ailing economy.

A slump in computer sales has also contributed to the oversupply, as PC manufacturers reduce their buying requirements to compensate for slower sales.

The RAM market is notoriously volatile, with recent price changes being influenced by the strength of the dollar against the pound, a number of resellers told *Macworld*. Others rejected this, claiming that manufacturers and large distributors frequently blame currency fluctuation for price change.

RAM components are made mainly in the Far East, assembled in America and distributed throughout Europe.

Marketing director of Mygate, Maneesh Patel said: "Memory prices have been at an all time low, but are now increasing." **MW**  
**Dominique Fidèle**

**Q**uarkXPress 5.0, the long-awaited revision of the industry-standard desktop-publishing application, is still under development, and is not expected to ship until the third quarter 2001.

The application is "feature-complete and being tested by a small group of customers – but is not yet in the beta testing phase", Glen Turpin, Quark's communications manager, told *Macworld*. Quark claims that it is going to put the XPress 5.0 through the most extensive testing any version of the application has yet faced.

Turpin said: "Quark is taking a staged approach to broadening the test group. There will be more private-workflow testing, as well as testing with QuarkAlliance and ServicePlus customers before we release any software to the public that we would call a beta."

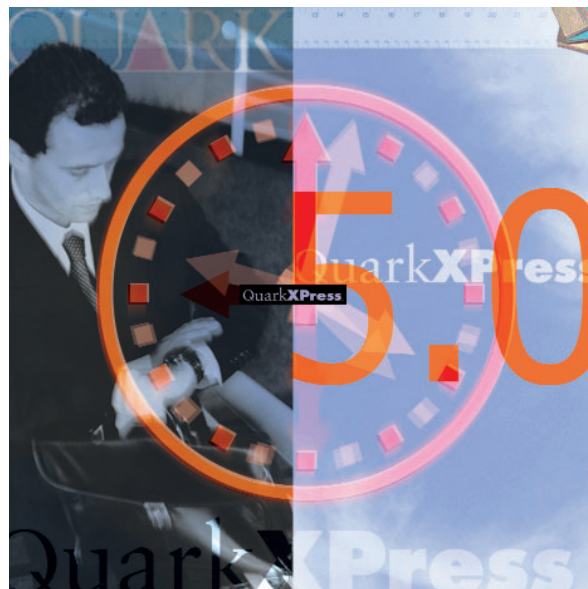
## Layer by layer

New features include the ability to use layers throughout a document. This will be a boon to XPress users, as layers work in a similar way to other graphics and layout applications.

The application will add an integrated table-editor for the first time. Until now it's been necessary to use third-party XTensions to construct tables in Quark. The Table Editor will work in a similar way to picture or text boxes in XPress.

QuarkXPress 5.0 also promises a host of Web-friendly features, including the ability to export Web pages, *avenue.quark*-compatibility, and the facility to create hyperlinks for PDF and the Web.

Used in conjunction with the *avenue.quark* XTension, the application will be capable of exporting content directly as XML from within an XPress document. It will



also be possible to import XML data directly into a document.

The Quark Color Management System (CMS) XTension will supply colour-control features. Additionally, QuarkXPress 5.0 will offer scripting capabilities, thanks to the new AppleScript XTensions software.

The application was previewed at both Total Publishing and DRUPA.

**Jonny Evans**

**MW**

## Flash fans get online resource

**M**acromedia has launched **Macromedia Exchange** for Flash, an online resource where Flash developers can share Flash 5 resources, including button libraries, Smart Clips, ActionScript samples, and Macromedia Generator templates. Macromedia already offers a similar service for Dreamweaver developers. The new service is available at <http://exchange.macromedia.com>. To use it, it's necessary to download the free 2.2MB Macromedia Extension Manager, which lets you install and organize extensions from within Flash or Dreamweaver. Developers on the site can also search, rate and review extensions and participate in forums. Some items are labelled as Macromedia-approved, meaning they've been tested by the company. Smart Clips, a feature introduced

in Flash 5, allows developers to create interface elements – such as scrolling windows and tool tips – that can be easily exchanged and customized. All but two of the extensions are Mac compatible.

Macromedia has also developed free downloadable extensions for Dreamweaver that will help developers create accessible content for people with disabilities.

Eric Wittman, senior product manager of Flash, said: "This is important. Ten per cent of the male population is colour blind. We want to help overcome the challenges faced by people with disabilities trying to get online."

More information about this is available from [www.macromedia.com/macromedia/accessibility](http://www.macromedia.com/macromedia/accessibility). The company is planning to launch a Macromedia



## Flash work

A Flash-authored game that appeared recently on IDG's WebCreate site.

Flash Accessibility Kit and further enhancements to the Flash Player (to boost accessibility) by the end of the year. **MW**



# Comdex gives glimpse of future



■ The G4 Cube was named 'Product of the Year' by US-based *Home Office Computing* magazine, which announced its 100 best products, services, and sites of 2000 at an award ceremony during Comdex. The criteria were value, performance, ease of use, innovation and suitability for home offices. Winners are divided into categories, and are given gold, silver or bronze rankings, a 'Product of the Year' is also selected. Apple's 15-inch, flat panel Cinema Display got a silver award in the LCD monitor category.



■ Elektex demonstrated its futuristic fabric keyboard at Comdex. Scheduled for release in June 2001, the keyboard can be folded, crumpled and washed without losing functionality. It has been designed for use with handheld devices and mobile phones. The device is lightweight, waterproof and robust, claims the company.  
[www.elektex.com](http://www.elektex.com)

Wireless solutions was the main theme of Comdex 2000, the giant computer trade show, held from November 13-17 in Las Vegas. Hewlett-Packard's CEO, Carly Fiorina, focused on a vision of the future in which technology is unseen, discussing Nokia's announcement that its cell phones can now link to HP printers to output Web content – and that HP printers can double-up as Web servers.

She said: "We talk about the wireless Web, but it's not about putting the Internet in your pocket. It's about letting appliances take advantage of the resources in the world around it. HP's part of this vision is turning printers into smart Internet appliances."

Eastman Kodak CEO, Daniel Carp also hinted at a future of unseen computing, discussing Kodak's latest project – a wireless camera with a built-in 3D-graphics program.

Carp highlighted the company's organic light emitting diode (OLED) technology, which promises better quality and lower power consumption than liquid crystal displays (LCD). He hinted at OLED devices that would be as "thin as a dime and light as a feather". OLED enables full-colour, full-motion, flat-panel displays and Kodak says the technology is superior

to LCD because it is self-luminous, so requires no back lighting, allowing for smaller displays. OLED

devices also consume little power and can reach viewing angles of up to 160 degrees, Kodak claims.

The 200,000 attendees also viewed a host of cross-platform peripheral products – including displays, storage devices, printers



and digital cameras – that were showcased by the 2,000 exhibitors.

Pretenders to the new-Macs throne took advantage of Apple's absence to push their Apple-inspired products.

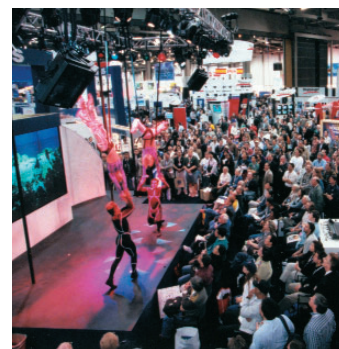
DA Computing showed its G4 Cube-like Komodo Server, designed to provide LAN-connected office users with a single point of access to the Net. It can function as a Web server, FTP server and fax server.

The graphics-chip rivals ATI, Nvidia and 3dfx were also present. An ATI representative, who wished to remain unnamed, said the company wants to take its chip-set Radeon controller into the consumer electronics and embedded-systems markets. He added that ATI has supplied samples of the Radeon mobility controller to laptop manufacturers – but would not reveal whether Apple was among these. ATI's Rage Mobility drives give graphics functionality in Apple's PowerBook and iBook.

Nvidia signalled its intention to snatch some of ATI's portable business, with the launch of GeForce2Go – its first processor for mobile applications. The chip also scooped Comdex's best wireless product award.

## Show stoppers

Kodak CEO Dan Carp (above) hinted at a wireless future during his keynote at Comdex in Las Vegas (below) that attracted more than 200,000 attendees.



3dfx, meanwhile, announced plans to sell its board-assembly facility in Juarez, Mexico and contract-out its manufacturing (see page 34).

Mac developer Orange Micro announced three USB 2.0 products – a hub, a PCI card and OrangeLink+, a combination card with one internal and two external FireWire ports, as well as three USB 2.0 ports. Apple has not yet revealed whether it intends to support USB 2.0.

**Dominique Fidèle and Joe LiPetri**

## Apple scoops BETT school-nominations

Apple's AirPort and iMovie 2 have been nominated for the BETT 2001 awards at the education and technology show – which will take place at London's Olympia from January 10-13.

A panel of 20 judges drew-up the shortlist of finalists from 400 nominated products.

iMovie is a contender in two categories, as a software tool for both primary and secondary

schools. AirPort also stands to scoop two awards, as hardware for use by primary and secondary schools.

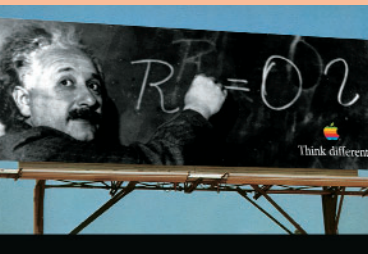
Voting is open to all practising teachers. The winner will be revealed at a gala dinner at London's Hilton Hotel on January 10.

BETT 2000 attracted more than 360 exhibitors and 22,120 visitors from 65 countries. For details go to the BETT 2001 Web site ([www.bettshow.com](http://www.bettshow.com)).





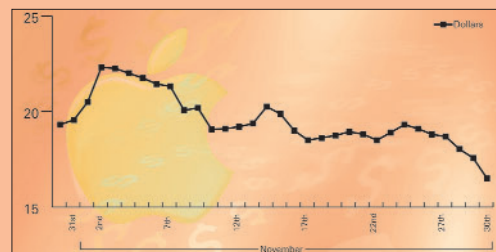
# All change on Apple's ads drive



Apple's vice president of marketing communications Steve Wilhite has resigned, with no reason being given by the company for his departure – and no replacement named at press time. In related news, Chiat/Day, Apple's advertising agency has reorganized its Apple account, claims US marketing trade publication Adweek. Chiat/Day creative director Ken Segall has left the agency, and group account director James Vincent and US director Sean Hardwick have been promoted to lead positions on the Apple account.

Chiat/Day chairman and chief creative officer worldwide, Lee Clow continues to oversee the account, Adweek claims. Clow is best known for his work on Apple's "1984" commercial, which introduced the Mac. 1984 is widely praised within the advertising industry. Clow was the creative lead on Apple's "Think Different" commercial and continues to be the creative leader of Apple's current advertising campaigns.

Segall has been working on the Apple account since 1997. He was creative director for the "Think Different" ad team. 1984 is said to have reduced Apple CEO, Steve Jobs to tears on first viewing. Segall has joined Messner Vetere Berger McNamee Schmetterer/Euro RSCG, where he is to work on the spring 2001 campaign for Intel's Pentium 4



chip, reports TechWeb news.

The Pentium 4 campaign is still under development, and is expected to include television commercials and Web advertising on PC sites. Intel released the chip at speeds of 1.4GHz and 1.5GHz on November 20 – Apple and manufacturing partners IBM and Motorola are searching for a way to match Pentium speeds (see Macworld, December 2000, p.28). Supply for the Pentium 4 chip is limited at present, preventing the chips' debut on the consumer market.

Of the "Think Different" ad campaign, Clow said: "Anyone who is a commercial or communication artist has the same kind of passion for Apple and Macintosh."

In the Spring 1998 edition of Apple Media Arts, Clow said: "Think Different has a lot of meanings for me. Think Different is, I think, Steve (Job's) original idea of the personal computer, a tool that allows you to think more productively."

He continued, "Think Different also means, be creative, imagine something that hasn't been done before. It's a change-the-world kind of challenge that Apple has always been part of."

Jonny Evans

## 3dfx to close Mexico plant

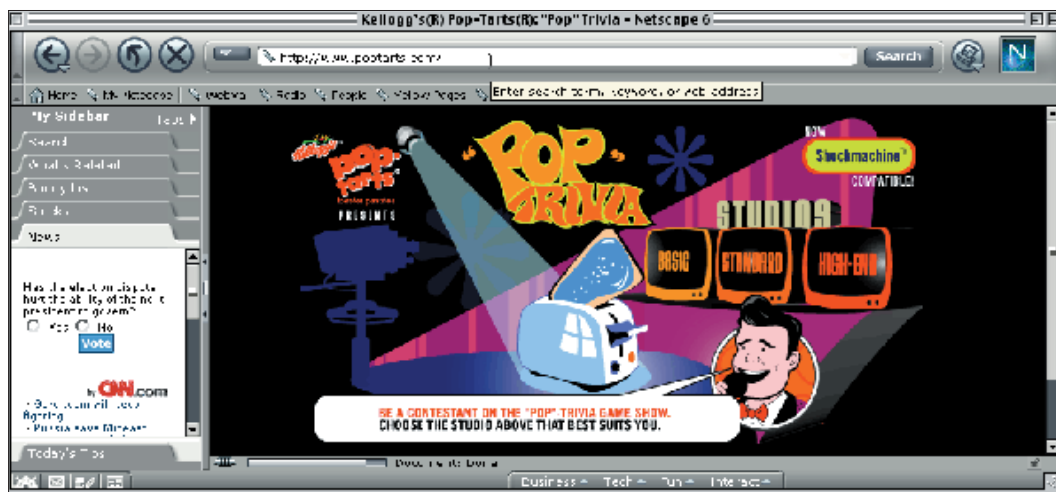
Graphics-board manufacturer 3dfx is to sell its board-assembly facility in Juarez, Mexico and outsource future manufacturing to contractors. The company will continue to design and market its graphics boards, and will maintain its relationship with Taiwan Semiconductor Manufacturing Company, its current chip-manufacturing partner. For the first time, 3dfx recently launched products for the Mac market with officially supported Mac drivers. The company has developed a good relationship with Macintosh developers, particularly games developers who praise the company's developer support. 3dfx's director of Macintosh business development, Bryan Speece, said: "There's no change in our desire to cater to the Mac market, our commitment remains the same." Speece admits things may change, as 3dfx's executive team assess its decision to bring the Voodoo5 5500 AGP card to the Mac.

Speece and 3dfx have been lobbying Apple since spring to offer the AGP card as a retail option for Macs bought from Apple's online store. Speece has suggested that, with ATI-built AGP cards shipping in every Mac, the after-market is too small for 3dfx to consider viable.

3dfx has brought two fully supported Macintosh video-cards to the market – the Voodoo5 5500 PCI and Voodoo4 4500 PCI cards. In September, 3dfx announced plans to bring the Voodoo5 5500 AGP card to the Mac, but Speece says the company is re-examining its plans to see if the decision is still viable.

## Business briefs

- Apple has begun manufacturing top-of-the range iMac DVs at a factory in Pardubice in the Czech Republic. iMacs made there will be distributed throughout Europe.
- Apple's newest board-level recruit, Arthur Levinson has purchased 80,600 shares in the company – to an estimated value of \$1,550,774. Levinson replaced Edgar Woolard Junior on Apple's board in August.
- Adobe Systems lost 9.3 per cent of its share value in November after Wall Street analyst Greg Vogel downgraded the stock, citing a "slowdown in Adobe's publishing business and Acrobat growth."
- Extensis is reshuffling its management, and splitting Creativepro.com and Extensis Products Group into two business units of parent company, ImageX.com.
- Imation may cease distributing the SuperDisk drive as sales fall and optical media-sales increase. Imation is seeking a new owner as it faces financial difficulty. SuperDisk manufacturer, Matsushita is considering ending production of the product.
- Media 100 president and chief operating officer Mark Housley has resigned, citing "personal reasons".
- Gateway has warned that "slow holiday sales" will depress its fourth-quarter earnings.
- Downloaded music sales are expected to reach £300 million in the UK by 2005, according to Forrester Research.



## Netscape 6 ships

**N**etscape has released Netscape 6, its beefed-up Web browser. The application has been rewritten from the ground up in an open-source environment, and is built on the Gecko browser engine.

Netscape claims Gecko has been developed to be compliant with industry standards, and to be a flexible engine capable of running on many platforms – including consumer devices, such as PDAs. This is why companies, such as IBM and Nokia, are working on projects that will integrate Gecko into next-generation Web-enabled devices, says Netscape.

Netscape claims its browser is designed to be smaller, faster and easier to download than other alternatives, and the installer has been developed so that only required features need be installed.

Enhancements have been made to all the elements of the suite, including Navigator, Netscape Mail, Composer, and Instant Messenger. The browser's been

given a streamlined look, and new features include My Sidebar, which lets users track information such as to-do lists, calendars, stock quotes and more.

The browser's appearance can be customized using Netscape's "Themes" feature, and it can check multiple email accounts – a first for Netscape. It can also look for words, phrases and Web addresses through the Web address field – so it's not necessary to download a search page.

Enhanced security features in the application include Cookies, Forms and Password Managers. The Cookie Manager provides a record of every cookie installed on the hard drive. The Password Manager can recall all login names and passwords at various sites, and fill these out automatically on future visits.

The application carries built-in support for Java 2, Net2Phone, Macromedia Flash and RealPlayer.

**Available on this month's CD**

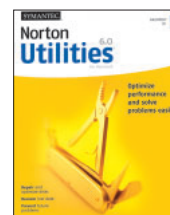
### Browser wars

For more on Netscape's latest attempt to challenge Microsoft's Internet Explorer, see *Reviews* page 56.



### Norton 'll fix it

Symantec has upgraded Norton Utilities and Norton Antivirus for the Mac. Norton Utilities 6.0 (£68) includes all the familiar hard-drive maintenance tools, and offers a new profiling system. Speed Disk can be used to organize multimedia or gaming files to make them more accessible. Norton Antivirus 7.0 (£51) will check email attachments and downloads for infection. Computers Unlimited, 020 8358 5858



### Big-time music editor

Nuendo version 1.5 has come to the Mac for the first time. Features of this high-end music-editing and -creation application include Virtual Studio Instruments 2.0 support, offering access to a variety of features such as the PPG Wave 2.V virtual synthesizer. FireWire and surround-sound processing support is built-in. The £850 app runs on Mac OS 9 or later. Arbitr, 020 8970 1910

### Cheap image conversion

Graphic Converter 4.0 has been released by Lemke Software. The \$20 image-conversion utility can handle more image-file formats than previous versions. Several bugs have been fixed, such as crashing after handling corrupt JPEGs and GIFs.

Lemke Software, [www.lemkeoft.com](http://www.lemkeoft.com)



## OnStream fires drive

OnStream is shipping the first 30GB FireWire tape drive – the Echo FireWire drive. It comes with Dantz Retrospect Desktop 4.3, and costs £349. Each tape can hold 30GB of data which can be transferred at 2MB per second – or up to 7.2GB per hour. 30GB tapes are available for £39 each, or £99 for a three-pack. The product is compatible with Mac OS 8.6 or later, and features a two-year warranty. The OnStream Echo measures 38-x-181-x-267mm, and weighs 0.97 kilograms. A £35 cleaning cartridge is also available to keep the tape-heads clean, and maintain data integrity.

**MacLine, 01223 247 111**



### Driving forward

The Echo FireWire drive can back-up 30GB of data to one tape.

### Sharp printing

Sharp has launched its latest colour copier/printer, the AR-C250. The £22,995 device can print at up to 25ppm and is network-ready. It handles paper sizes up to A3, has a finisher or "sorter-stapler", a 1,500-sheet capacity and prints at 600-x-600dpi. Sharp, 0800 262 958

continues page 38



**Projector price cut**

Infocus has cut the price of its LP335 presentation projector from £4,150 to £3,595. The projector delivers 1,000 ANSI lumens brightness. It is compatible with Extended Graphics Array (XGA) and offers digital and analogue connectivity. It has a resolution of up to 1,024-x-768 pixels and a 400:1 contrast ratio. Weighing 2.178kg (4.8lbs), the LP335 has digital, analogue and USB connectivity through a single connector. Infocus, 0800 028 6470.

**Pop-up messaging**

Soft&Net Distribution has released MacPopUp 2.1, the Instant Messenger for local-area networks. The application lets users send messages across networks to different platforms. It features text-to-speech and speech recognition. Soft&Net Distribution, [www.soft-net.co.uk](http://www.soft-net.co.uk)

**Terminal ISDN**

SEG Communications, UK distributor for DrayTek, has released the miniVigor128 ISDN Terminal Adaptor. Priced at £59, the adaptor is self-powered by the USB bus and compatible with any ISDN2e or BT Home or Business Highway line. The unit supports both 64Kbps and 128Kbps connections. SEG Communications, 020 8953 3377.

**Great Dane's PhotoMate**

Dane-Elec has launched the PhotoMate card reader, which allow digital cameras, MP3 players and other portable devices to transfer data to and from Macs. It can read CompactFlash memory cards, and connects via the USB port. It costs £36. Dane-Elec, 020 8391 6900

**Drive on**

Freecom has launched an external FireWire hard drive, capable of 10MB per second data transfers. Up to 63 hard drives or peripherals can be added to the FireWire chain, and the product uses no drivers, relying on the automatic configuration built-in to the device.

The £170 drive weighs 650g, offers 20GB storage, and comes in a silver casing. Freecom plans to launch a 40GB version in the future. Computer Connections, 014242 704 700

# Samsung's flat-panel pitch

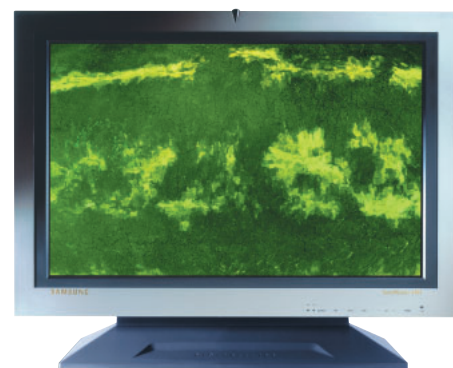
Samsung has launched two monitors: the SyncMaster (SM) 240T and SyncMaster 210T. The SM 240T is a flat-panel monitor that produces distortion-free images of up to 1,920-x-1,200 pixels on a wide-format display.

The SM 240T comes with picture-in-picture support, allowing a TV programme or DVD movie to be displayed at the same time as an application.

Samsung claims the blurring of fast-moving screen images – associated with thin-film transistors (TFTs) – is eliminated with the new SM 240T. The SM 210T can display video at a ratio of 16:9, and has a standard screen-response time of 25ms.

Both units offer 160-degree viewing angles, and eliminate geometric-picture distortion. The "flicker-free" monitors are aimed at graphics designers, as well as video editors.

An optional stand with USB ports

**Wide view**

The SyncMaster 240T can display widescreen images. Samsung claims it has a 160-degree viewing angle.

will be available, although no UK price has been announced.

The SM 240T costs £3,525, while the SM 210T is priced at £2,975.

Samsung, 0800 521 652

# Entry scanners launch

Microtek has announced the ScanMaker 4600 and the ScanMaker 3700 42-bit-colour USB scanners. The £99 ScanMaker 4600

has a resolution of 1,200-x-2,400dpi, and a maximum scanning area of 216-x-297mm.

The ScanMaker 3700 is bundled with the ScanWizard 5, which can set image and document

sizes, colour adjustment, brightness and contrast – these settings can also be configured manually for more controlled results.

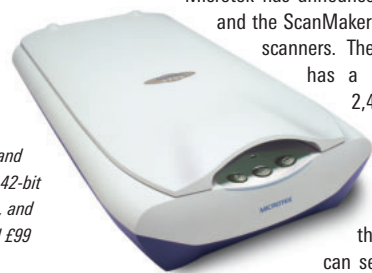
ScanWizard 5 supports all popular image file-formats, including JPEG, TIFF, GIF, BMP and PNG.

The £68 ScanMaker 3700 has an optional 35mm film scanner for £34. It's a 42-bit USB scanner that offers a maximum scanning area of 216-x-297mm. Resolution is 600-x-1,200dpi.

Microtek, 01908 317 797

**Scan-tastic**

Microtek's ScanMaker 3700 (right) and 4600 have a 42-bit colour depth, and cost £68 and £99 respectively.



# Xerox printer hits 144 grey levels

Xerox has released the DocuPrint P1210, an A4-laser printer. The £392 printer features up to 12 pages-per-minute (ppm) monochrome-laser printing at a resolution of 1,200dpi.

The P1210 offers 144 levels of grey, and can print on both sides of paper.

The printer ships with 4MB of memory

as standard, expandable to 68MB, and connects through either parallel or USB interfaces.

The DocuPrint 1210 can print on card stock, transparencies, envelopes labels and a range of paper sizes.

Xerox, 0870 241 32455



# Digital TV

Digital Vision has launched its new catalogue, Folio Four. This is the final catalogue slated for release by the company this year. The collection aims to showcase the best images from across its titles – which include the fashion-influenced Attitude and the energetic High on Life. The discs cost £399 each and are available from Digital Vision's Web site ([www.digitalvisiononline.co.uk](http://www.digitalvisiononline.co.uk)). Digital Vision, 020 7375 5500



# Curious about Poser

Curious Labs is shipping version 4.0.3 of the 3D-character animation and design application, Poser. MetaCreations sold Poser to Curious Labs in March 2000, when it divested itself of its desktop-graphics products. The new version features full-figure morphs, new texture-mapping and lighting controls. The product can create images, movies and posed 3D-figures from a library of fully articulated human and animal models. It comes with libraries of pose settings, facial expressions, hand gestures and swappable clothing.

Posed figures can be animated, creating movies for Web, print and video projects. New morphing functions include additional deformers, polygonal grouping and picking and full-figure morphs. Deformers can also animate an image. For instance the Magnet deformer lets artists bend, stretch or pinch figures. The Wave deformer will animate ripples on surfaces, such as loose clothing on a 3D figure. The new Sketch Designer feature makes it possible to add a hand-drawn visual quality to any figure or scene. The application has improved 3D acceleration, user interface, import and export functions, and a preview mode.

Extra lighting effects have been added, as have controls to provide more realism. The application also includes interchangeable clothes, facial morphs and transparency options. It comes bundled with a second CD containing 70 high-resolution 3D figures, 22 hairstyles, clothes and props. Poser can launch a Web browser and go straight to Poser resource sites where textures, props and morphs can be downloaded.

Poser version 4.0.3 costs £199. An upgrade from earlier versions of Poser costs £84. Computers Unlimited, 020 8358 5857

**Strike the pose**

Poser 4 instantly updates roll-over text for toolbars, cameras, lights, previews, animation features and figure parts.

# Portable projector lasers in

Mitsubishi Electronic has launched the LVP-X400/U portable display projector, which offers a Natural Colour Matrix that controls the saturation of six colour-signals (red, green, blue, yellow, magenta and cyan). Manual adjustments are made through an on-screen display for both video and computer-generated images. The projector has a brightness of 3,000 ANSI lumens.

New features include picture-in-picture (PiP), which allows two media – such as television and video – to be simultaneously screened, and the CineView built-in line doubler which memorizes and processes image sequences for smoother movement.

The £5,102 projector allows specific parts of

an image to be pinpointed with a laser mounted on the remote control. The X400U's digital interface connects with graphics cards sporting an RGB connector.

The unit's resolution is 1,024-x-768 pixels. It's PAL, NTSC, SECAM video format, DVD and high-definition television compatible. It carries a 2W stereo audio-output, and consumes 360W. The 6.7kg (15lbs) projector measures 299-x-133-x-367mm.

Mitsubishi Electric, 01707 276 100

**Middleweight contender**

The portable X400/U is not as light as some of its rivals, such as the LPP335 on page 38, but it's brighter and has a picture-in-picture function.

**Hefty Diamond**

Black Diamond Products has released version 1.5 of Hefty FTP. The queue-based FTP client automatically retries connections. The client can transfer queued files to or from four FTP servers while browsing a fifth. It can also download files off the Web. The \$20 Hefty FTP 1.5 is more stable than previous versions, claims the company. Black Diamond, [www.ziggy.speedhost.com](http://www.ziggy.speedhost.com)

**Keystone storage**

M-Systems has announced its DiskOnKey universal storage device. The pen-sized storage solution plugs directly into USB ports, and carries 32MB of removable storage. Built on Flash memory, the £50 DiskOnKey needs no software drivers. The product will be available in 8, 16 and 32MB versions initially, though higher capacities are promised. It's set to launch in the UK "shortly". M-Systems, [www.m-sys.com](http://www.m-sys.com)

**Graphics app is Magic**

Artis Software has updated TextureMagic, its Mac-only graphics-application, to version 1.3.3. The update fixes a glitch in the preview, making it fully compatible with the Classic environment in Mac OS X. It creates and edits tileable textures for Web-page backgrounds and costs \$49. A Pro version with additional software and 250 royalty-free textures is available for \$98. Artis Software, [www.artissoftware.com](http://www.artissoftware.com)

**Legacy connection**

Belkin's Apple Monitor Adaptor connects the latest G4 systems to older Apple monitors. It bridges the gap between Apple's Display Connector (ADC) and the DVI (Digital Video Interface) connector of older monitors. Available from the Apple Store and other dealers, it costs £24. Belkin, 01604 678 300

continues page 40

## LG screens Flatrons

LG Electronics has announced its new LCD monitor, the LG 915FT.

Part of the Flatron range, the 19-inch screen offers a 1,600-x-1,200 dpi resolution at 85Hz. For colour accuracy and increased resolution, the monitor uses a 0.24mm stripe pitch. An anti-glare coating reduces reflection and eliminates visible-angled light and geometric distortion. The display requires an adaptor to work with a Mac and costs £399.

Ideal Hardware, 020 8286 5000.



## PowerBook on Net

Micro Systemation has released the £84 SoftGSM

USB, a software and

USB-cable solution that lets Apple users connect

their Macs to certain mobile phones to access email, the Web, and fax. Text-message handling (SMS) is promised by the end of the year. The solution supports Motorola, Nokia, Siemens and Ericsson mobiles.

Micro Systemation, 01959 578311



## Mystic Mu

Mu-online.com has released version 2.5 of Astrology, its \$39 astrology program. The revision offers a number of high-level Astrological analyses for customized horoscope creation, including a chart comparison for compatibility readings.

Mu-online, www.mu-online.com



## Linux for Mac

SuSE Linux has released SuSE Linux 7.0 Personal for PowerPC, which lets Macs run Linux OS. Costing £24, it comes with over 1,000 apps, and 60 days of support. £42 buys the SuSE Linux professional edition, which comes with 1,500 apps and three months support. Interactive Ideas, 020 8805 1000

# On the Oki...

Oki has launched its C7000 series of A4 USB mono/colour workgroup printers. The printers make use of Oki's single-pass digital LED (Light Emitting Diode) technology. Oki claims this technology means it "can produce machines at a price-per-unit that laser printer makers cannot hope to match". Oki also claims it can produce large-format printers at competitive prices.

Conventional laser-colour printers utilize multi-pass technology, taking each page around the imaging drum four times to achieve full CMYK colour. Oki's digital LED system uses four in-line digital LED heads and image drums – this hastens print times and delivers precise colour-registration, claims Oki.

The Adobe Postscript III-friendly C7000 series offers 600-x-1,200dpi resolutions, though the C7400 offers 1,200-x-1,200dpi. The C7000 family can print in full colour at 12 pages per minute (ppm), or 20ppm for mono. The first page is printed in 17.3 seconds for colour, or 10.3 seconds in mono. However, duplicate pages print much faster. The printers' host a 400MHz 64-bit PowerPC processor and can carry up to 1GB RAM – though they ship with 64MB RAM as standard. There's also 2MB Flash memory provided across the range. All come with a 550-sheet paper tray as standard, and a 100-sheet multi-feeder. Two 550-sheet trays can be added.

The printers can be managed over the Web through a browser – furnishing administrators with print status, machine usage, toner levels and drum-life information. Settings can also be changed through the browser.

The C7000 family comprises: the standard C7200, the C7200n, C7200dn (which ships with 128MB RAM, a duplex unit and hard-disk drive), and the top-of-the-range C7400, which offers 256MB RAM, a duplex unit and hard-disk drive.

Available now, the C7200 costs £1,839, the C7200n £2,029, the C7200dn £2,579, and the C7400 £3,119.

Oki, 01753 819 819



## Oki-dokey

Oki's range of network-ready printers can output at 12 pages per minute in colour.



**Flat hunting**  
The 19-inch PerfectFlat 790 features an anti-glare coating, and has a maximum resolution of 1,600-x-1,200 pixels.

## ViewSonic flat-out

ViewSonic has launched two PerfectFlat displays, the PF790 and PF775. The monitors offer flat, distortion-free images. The 19-inch (18-inch viewable) PF790 offers a 0.25-0.27mm variable-aperture grille pitch, and both have a "flicker-free" recommended resolution of 1,280-x-1,024 pixels at a 90Hz refresh rate. The maximum resolution for the 790 and the 775 is 1,600-x-1,200 pixels at 77Hz.

The 17-inch (16-inch viewable) PF775 has a 0.25mm aperture grille.

Both displays have been treated with an anti-glare coating that refracts light away from the viewer. The monitors have on-board as well as digital controls. The ViewSonic PF790 costs £349, the PF775 £259.

ViewSonic, 0800 833 648

## 4D supports QuickTime

4D UK has upgraded 4D 6.5, its database-development solution, to version 6.7. The software is used to create Web and client-server applications and supports Mac OS 8.5 and higher.

New features include built-in secure-socket layers (SSL), increased security and WAP support.

The product includes 4D Open for Java 6.7, which allows Java clients for 4D Server 6.7 to be developed. This offers functions beyond basic data manipulation and queries. Developers can create multiple client-processes and record sets, and set read/write privileges for individual records.

Image handling has been improved – 4D 6.7 uses QuickTime 4, so developers can save pictures in image formats including GIF, JPEG, PNG and FlashPix. The standalone version costs £195. The Developer Edition costs £495.

4D UK, 0162553617



## Next dimension

4D's latest version of its database-development software includes increased security and secure-socket layers and WAP support.

continues page 42



## Apple updates

Apple has released a series of updates for WebObjects 4.5,



its application-server framework for e-commerce-application development. The application can link-up with databases, and offers server-management features.

Apple recommends that WebObjects 4.5 users install the upgrades, which include password protection, on the event-logging set-up, and statistics pages.

Apple has a policy of not permitting third-parties, such as Macworld, the right to carry Apple updates on cover CDs. For links to the latest updates visit [www.macworld.co.uk/updates](http://www.macworld.co.uk/updates)

## Third-party updates

### Adaptec Toast 4.1.2



The Toast 4.1.2 Deluxe updater offers bug fixes, additional drive support and compatibility with Ricoh's JustLink. The update works with Toast 4.0 Deluxe or later.

### Adobe LiveMotion 1.0.2

This update features faster performance, improved sound support, better import and export capabilities, tighter integration between Adobe Illustrator and Photoshop, and updates to the object-based Timeline. This installation is recommended for all LiveMotion 1.0 users.

### ATM Deluxe 4.6.1

The update improves versions 4.5, 4.5.1 and 4.5.2 of ATM Deluxe. It provides OpenType font support, and support for Mac OS 8.1 through 9.0.

### BEdit 6.0.1

This is an installer that will update BEdit 6.0 to 6.0.1, offering more stability.

### RAM Doubler 9.0.1

This upgrade fixes RAM Doubler's incompatibility with Microsoft Office 2001. iBooks with the "Preserve Memory Contents on Sleep" option turned on in the Energy Saver control panel will crash when going into sleep mode. To fix this turn off the option.



## Let's play tag

Tag's JamCam (right, top), Jam-It! (above), and JamStudio (right) allow digital photos, audio and graphics to be created for multimedia presentations and Web sites.

# Multimedia trio ship



Tag Learning has launched three products: JamCam 3.0, Jam-It! and JamStudio. JamCam is a USB digital-camera for all ages. It costs £89, and comes with Adobe PhotoDeluxe 3.1. It offers a maximum resolution of 640-x-480 pixels, and a maximum-image capacity of 48 pictures. It ships with both Mac and PC software drivers and delivers images in GIF, JPEG and TIFF formats. The camera has an automatic strobe flash.

Jam-It! is a budget-priced sound-recording device for sound capture and playback. Sounds can be downloaded via USB to a Mac for further processing. Jam-It! is a lightweight device, and ships with sound-manipulation software. It costs £44.

Finally, JamStudio is Tag's USB graphics-tablet. It's been designed with the Web in mind, and offers a 7-x-5-inch drawing area. It comes with a corded, pressure-sensitive pen that understands 256 levels of pressure sensitivity. JamStudio costs £64.

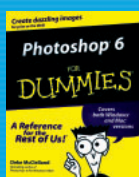
TAG Learning, 01474 357 350



# CDs & books: Special round-up

## IDG adds to Dummies

Photoshop 6 for Dummies is available now from Macworld. It's an essential guide to the



application, with a selection of tricks and tips on using the software. It teaches

the rudiments of Web graphics, how to create contact sheets, text and layering effects, and costs £16. Coming soon, iMac Internet Kit for Dummies shows readers how to maximize Internet and Web activity with the Mac's Web capabilities. Author Charles Seiter offers tips on choosing a Web browser, searching for the best sites, finding and using the tools for browsing, viewing and setting up a Web page. The book costs £25. Both are available from Macworld at discount of up to 30 per cent. Macworld, 020 7831 9252. [www.macworld.co.uk/readersoffers](http://www.macworld.co.uk/readersoffers)

## Risks adds to Fun

MacSoft has released two titles, Risk II and Mac Fun Pack 2. Risk II sees armies on the march. Users take on the role of Supreme Commander and the game's aim is to achieve world domination. Risk II costs £26.

Mac Fun Pack 2 comprises four games including Lode Runner 2, Play To Win Casino, Real Pool and America's Greatest Solitaire Games. Lode Runner 2 involves mastering 3D mazes of surreal paths, through 150 levels spanning five worlds, while being hunted by foes.



Play To Win Casino features six casino games in 45 varieties, including

Blackjack, Craps, Roulette, Slots Video Poker and Keno. Real Pool offers the feel of pool through photo-realistic graphic shots.

America's Greatest Solitaire Games is a collection games for beginners and experts. Mac Fun Pack 2 costs £17. Softline, 01883 745 111

## Teenage fan club

Knowledge Adventure has launched Sabrina Animated: Magical Adventure, which aims to capitalize on the success of the television series Sabrina the Teenage Witch.



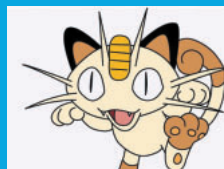
Sabrina's adventure begins after misplacing a magic amulet. Rival, Gemini Stone, finds the amulet and uses it to cast wicked spells – players must stop Gemi before it's too late.

The game promotes critical thinking through arcade games, trivia, puzzles and mazes, according to the company. The game is for children aged 6-12 years and costs £19.99. Knowledge Adventure, 0118 920 9100

## Catch 'em all

Mattel Interactive has launched ten mini Pokemon CD-ROMs. Dubbed PokeROM, each one is based on a different Pokemon character; Bulbasaur, Charmander, Squirtle, Pikachu, Meowth, Psyduck, Poliwhirl, Gengar, Eevee and Mewtwo. Designed to make studying fun, PokeROM guides children through a database of over 200 mathematics, science, reading and social-skills questions. There's a choice of over five skills levels for ages five and up. It's possible to store and view your favourite Pokemon characters in the Pokemon sanctuary and to print the characters.

The PokeROMs cost £4 each, but the CD-ROM isn't compatible with slot-loading CD drives. Hallmark, 01664 481 563



The Web has more cowboys and claim jumpers than the Badlands



## Wild West Web

**N**ow that the Wild West years of the Internet have passed – and the gold diggers have staked their claims to the promised fortunes – the Internet is now awash with claim-jumpers and ghost towns. In the last year, so many dot-com businesses have gone belly-up that the demand for high-value domain names is waning. For instance, take a look at the name furniture.com. If it had been auctioned a couple of years ago, it would have fetched a six-figure sum. In the past month, furniture.com, urbandesign.com and living.com all filed for bankruptcy. All flogged furniture over the Internet – but apparently, people don't want to buy furniture over the Internet. The idea has been tried and tested and been shown to fail, so devaluing furniture Web addresses. It's likely that the remaining furniture-selling Web sites – if there are any left – will join furniture.com in the e-business ghost town.

Of course, some e-businesses continue to do fine. I mean, who could ever have predicted that porn would be the Internet's number-one product. Gary Kremen, for one. He had the foresight to register the name sex.com back in 1994. Now why didn't I think of that?

Unfortunately for Kremen, a certain Stephen Cohen hijacked the sex.com domain after forging documentation for the transfer of ownership in 1995. The dispute has only just been resolved and the domain returned to its rightful and soon-to-be-very-wealthy owner. It is estimated that the site gets 25 million hits a day, and that the domain could be worth as much as 100 million dollars.

The creep who has controlled the site for the past five years admitted to receiving a salary of \$17 million a year, plus \$100 million in stock options. Though how much that stock is worth now isn't clear. Judge James Ware showed a good understanding of the situation and ordered the return of the domain. However, he is a Judge in San Francisco. Imagine a judge in the UK in a similar situation: "The Internet, m'lud, is a global network of computers allowing communication via the use of digital signals."

"And you say this is all powered by electricker?"

Claim jumping is more difficult to police on the Internet because there are no deeds or titles. When ownership is passed from one person to another, there are no legal documents to be notarised; you just send a couple of emails. It's not as tough as you may think for a rogue to steal your domain. You can't

simply go to the police and tell them that someone has pinched your domain. It's such a grey area that, in some cases, your domain can be legally taken away from you.

For instance, if you neglect to pay domain fees on time, applying to take the unused domain is a simple matter. Searching for domains that are just about to run out is also straightforward.

Claiming unused and unpaid for domains, while legal, can be shady. Even Network Solutions, the company in charge of allocating domain names, has been accused of hoarding soon-to-expire names. As the controller of these domains, it is easy for it to have first dibs on names as they become available. A guy called Stan Smith is currently in litigation with Network Solutions over an expired domain that he wasn't allowed to register. The people at Network Solutions gave no reason for withholding the three-letter domain names Smith tried to buy.

Some claim-jumpers are even jumping the claim before it's made. If you've ever checked a domain's availability on one of the name registration sites you could be affected. Though there have been no proven cases, the theory goes that people can see what domains are being searched for. If a good idea shows up, then they register that name to sell later. Of course, with a new domain being registered every four seconds, much of this can be put down to coincidence. However, domain-name searches are not usually carried out with a secure connection. If somebody was to have a site that offered secure domain searching I'm sure they'd get plenty of business. Unfortunately [www.securedomainsearch.com](http://www.securedomainsearch.com) is being squatted by developers, so you'll have to think up a new name.

It seems there are as many critters, claim-jumpers, homesteaders, ghost towns, snake-oil salesmen, robbers and cowboys across the Wild West Web as there ever was in the days of Billy the Kid.

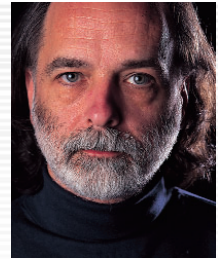
Perhaps we could do with modern-day lawmen equivalents of Wyatt Earp, Judge Roy Bean and Issac "The hanging Judge" Parker. Bringing law and order to the Internet should be a global aim. I'm not calling for a single Internet government – and neither should order be restored at the expense of the Web community's civil liberties, or in favour of big business over the little guys. Let's just hope Judge James Ware is the first of many who'll force Internet cowboys the hell out of Dodge.

**"The Internet could do with a modern-day equivalent of Wyatt Earp"**

mw



France likes to think it's a mature democracy – but try telling Yahoo!



## French nickers

A few weeks ago, John 'Two Jags' Prescott, looking like a bullfrog on heat, stomped out of the conference on global warming blaming the French for the continuing lack of consensus on any concrete measures to try to reverse the apparently exponential weirdness of global climate change. Generally, it's not been a good end of year for the French. Apparently, our post-colonial zeal against relinquishing too much of our tabloid-induced Britishness to a European super-state doesn't apply to things like the wholesale sharing of BSE or the heavily jingoistic nanny-state school of thought on issues like freedom of speech.

Meanwhile, over in the land of Liberty, Equality and Fraternity, in a landmark ruling with potential implications for Web users around the world, a French court ordered US Internet giant Yahoo! to bar French users from sites selling Nazi memorabilia. Confirming a ruling first issued on May 22, ordering Yahoo! to prevent people in France from accessing English-language sites that auction Nazi books, daggers, SS badges and uniforms, a French judge ordered Yahoo! to install a filter system registering keywords capable of blocking access to the offending sites for 90 per cent of French Web surfers.

Leaving aside the fact that the very anarchistic heart of the Web may have just been destroyed, taking liberties with another country's rights, freedoms or fundamental sovereignty is serious stuff.

Yahoo had fought the case primarily on the grounds that its English-language Yahoo.com services are US-governed, and that auctions of Nazi material cannot be barred because of US constitutional rights to freedom of speech. And what is particularly significant about all this is that the ruling applies to the 'US' Yahoo, not the French Yahoo, since the latter already adheres to the French law. This means the French court is looking to silence a US-based company.

Since the US, like Britain, is rather touchy about uninvited foreign intervention into domestic corporate and legal affairs, the whole decision seems absurd. OK, selling Nazi memorabilia can be seen as an emotive issue, and the French think it could be dangerous because it could stir racial hatred. But this is also a country where handguns are reasonably accessible and nearly anyone can easily buy an assortment of CS-gas, Mace, knives and retractable batons in the equivalent of local corner shops. I'd think

that stuff is far more dangerous in the hands of right-wing thugs than the odd SS trenchcoat. And if you've followed the exploits of France's dangerously mainstream fascistic National Front leader, Jean Marie Le Pen, you'd be forgiven for thinking that a bit of domestic housekeeping needs to be done before the French courts claim the moral high-ground abroad.

Besides, banning French customers from using services on the Web could in itself be seen as racial discrimination, and I'm not sure it would even be legal for a US company to deny access to services based on someone's nationality. I mean, considering how keen American courts are on all sorts of personal litigation, a French citizen could decide to sue Yahoo in the US court for denial of service.

Will Yahoo be removing every Net connection in and out of France so it can be sure no one can connect? Frankly, short of ripping out every international link, and scrambling all wireless access, I don't see how it can prevent this – unless they use a simple but ineffectual disclaimer like most adult sites use. You know...the banner that says: "The following may be offensive to the French. Are you French? If yes, leave now. If no, enter for loads of tacky Nazi crap."

France likes to think it's one of the greatest democracies in the world. But who gets banned next? If they're so concerned about racial hatred and guilt over genocide, are they going to ban Spanish or Catholic merchandise sites for single-handedly wiping out the entire Aztec and Inca civilizations? Or how about sites associated with memorabilia from European settlers that nearly obliterated the Native Americans? Anything Russian, despite the genocide of the gypsies and nearly everyone else in and around the Ukraine? British goods after all those wonderful colonial exploits? Or has all that passed some mutually agreed statute of limitations?

Hypocrisy, self-delusion and inconsistency are the real dangers here. And the French, who have produced some of the greatest ever writers, poets and philosophers, should know that. The Web is touted as a free, borderless frontier where information and ideas can flow unhindered. But if tolerance goes, freedom can't be far behind. As Voltaire said: "I disagree with what you say, but I defend to the death your right to say it." And, unless some court has ruled otherwise, I think he was French... MW

**"The Web is touted as a borderless frontier where information and ideas can freely flow. But if tolerance goes, freedom can't be far behind"**



## Macworld Rating

★★★★/9.0-10.0 = OUTSTANDING

★★★★/7.0-8.9 = VERY GOOD

★★★/5.0-6.9 = GOOD

★★/3.0-4.9 = FLAWED

★/0-2.9 = UNACCEPTABLE



## Dreamweaver 4

**Publisher:** Macromedia [www.macromedia.com/uk](http://www.macromedia.com/uk)

**Distributor:** Computers unlimited (020 8358 5857)

**Pros:** Ability to sketch tables in design mode; customizable keyboard shortcuts; Common User Interface between Macromedia applications.

**Cons:** Some improvements to usability still need to be made.

**Min specs:** PowerPC; Mac OS 8.6; 64MB RAM; 135MB hard-disk space.

**Price:** £229 excluding VAT; Dreamweaver 4 Fireworks 4 Studio, £349;

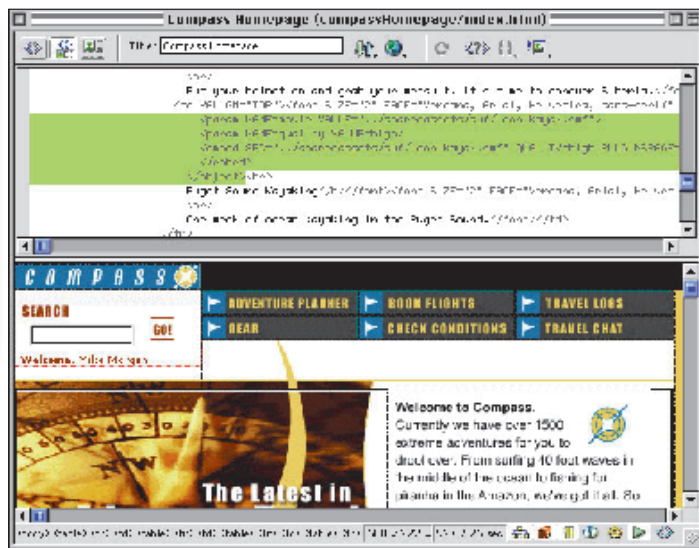
stand-alone upgrade, £99; upgrade to Studio, £149.

**Star Rating:** ★★★★★/9.3

Macromedia's Dreamweaver is already the world's leading Web-design layout tool. But to describe it as merely a layout tool is to ignore its multitude of other interactive scripting and site-management features. Version 4 of Dreamweaver is now even easier to use and faster to learn. It's also better at production flow, and entirely customizable.

Earlier versions of Dreamweaver made it easy for those with no HTML-coding skills to create complex Web-site designs, without ever having to even see any funny HTML tags. This appealed to many graphic designers who were new to Web design, and didn't want to delve into the complicated depths of text-based programming.

Adobe GoLive also offers this WYSIWYG (what you see is what you get) solution to creating Web pages. And version 5 of GoLive – released in August 2000 – overtook Dreamweaver 3 in terms of ease-of-use and scripting



### What you see is what you code

If you like to keep an eye on your code at the same time as creating in the Layout mode, you now have a split-pane window rather than a separate floating HTML window. You can select Show Code View only or both at the same time in both Dreamweaver and UltraDev.

ability; see our review in the October 2000 issue of *Macworld*. However, this latest incarnation of Macromedia's Dreamweaver has again raced ahead of GoLive 5 to deliver the ultimate Web-designer's application.

Macromedia continues to build and develop its applications while paying particular attention to its users' suggestions. Every Web site is different, and each designer has his or her own particular way of working. This makes

tool-customization important across all the tools you need to create a great Web site. Macromedia has been listening.

Not so important for designers – except for those willing to dabble in hand-coding – but vitally important to Web developers is access to and complete control of the HTML source code. Even with emphasis on the user-friendly WYSIWYG layout and drag-&-drop capabilities of Dreamweaver, Macromedia has wisely not ignored

## One Macromedia user interface 4 all

Upgrades to the key programs of Macromedia's Web-site creation software – Dreamweaver, UltraDev and Fireworks – were announced in November and are now shipping. Macromedia has concentrated on making all three products easier to work with, especially regarding production flow. A Common Macromedia User Interface creates a standard look-and-feel across its whole Web-product range.

Existing features have been improved, in addition to the many new features that have been added as each program reaches version 4. To simplify the transition for graphic designers from print to Web, Macromedia has made these tools

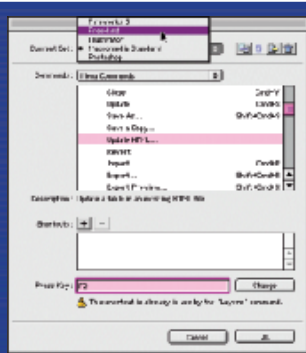
more approachable and familiar. WYSIWYG solutions and ease-of-use are therefore top priorities.

One feature added earlier this year to Flash 5 was the Launcher Bar at the base of the layout window. This has now been added to the rest of Macromedia's Web-tools suite. Unfortunately, they're not customizable. But you do have one-click access to the most regularly used features, such as show/hide different panels and launch site files.

You can customize the keyboard shortcuts by simply selecting the set you are most comfortable with. Choices of built-in sets include Fireworks 3, FreeHand, Illustrator, Photoshop, and the new Macromedia

standard – see screenshot, right. The same drawing tools in all version-4 Macromedia Web applications have the consistent layout, groups and colour-management panels. The menu items and structure are the same across the board. The same is true of how you control panel layouts, as well as snapping and docking, and sharing and saving layout sets.

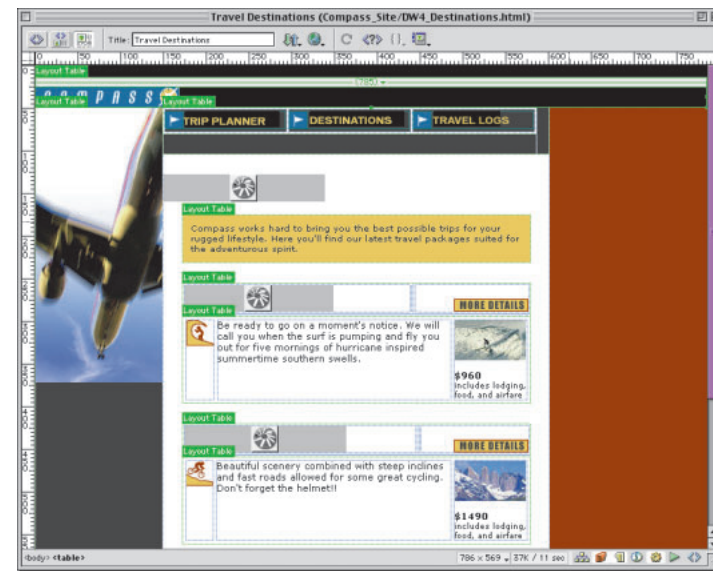
If merely standardizing the user interface for all three products isn't enough for you then the RoundTrip editing principle should be. Macromedia coined the term RoundTrip when Dreamweaver 2 was launched, referring to the preserved HTML coding when working between WYSIWYG mode and source mode.



Now the same principle has been applied to Fireworks-created graphics and HTML tables produced in Dreamweaver.

▶ **UltraDev 4**, page 50

▶ **Fireworks 4**, page 53



### Table tops mountain

Tables and table cells can be drawn straight on to the canvas in Dreamweaver's new Layout mode, making complex designs much easier and quicker to create.

HTML-coding needs. Even with all the extra text-editor additions, Macromedia still ships third-party text-editor supremo BBEdit with Dreamweaver.

The integrated text editor in version 4 provides some improved BBEdit-like functionality. It now allows immediate access in Dreamweaver and UltraDev to the basic source code of your Web pages. You can use a separate windowpane to view the HTML code or take advantage of the split-pane view (see screenshot opposite). On the new code pane there's a Launcher Bar (first seen in Macromedia's Flash 5), and the HTML can now be colour-coded.

The bar includes button access to page properties such as file management, code navigation, site files, debugging, reference information, body properties, and Meta information. This means that you no longer need to access them separately through the pop-up control window.

Macromedia has added some excellent HTML reference information with Dreamweaver 4. The new integrated Code Reference feature is accessible via a one-click access of HTML terms and where to use them; this is based on the *Definitive DHTML* reference book published by O'Reilly. Simply highlight the tag you want more information on, and handy hints and links are shown in a panel.

As more and more Web sites use Flash-generated content – either

completely developed in Flash, or with some Flash animation included in the design – Macromedia has made it easier to add Flash content to Dreamweaver.

### Editable graphics

You can now create editable vector-graphics within Dreamweaver. The advantage of using Flash graphics and text rather than bitmaps is that they can have much smaller file sizes and are infinitely scalable. A few styles are included with the shipping Dreamweaver product, but more can be created in Flash and added to Dreamweaver or downloaded from Macromedia Exchange.

Creating Flash text is very simple. All you have to do is launch the Flash text editor – or select the icon from the Objects palette – type in your text, apply the desired effects, and export as a SWF file. Unfortunately Macromedia seems to have forgotten that it improved the text-editor window in Fireworks 4 to allow manipulation of the text block during creation on the canvas – you cannot do this while creating Flash text in Dreamweaver 4.

Dreamweaver's new Layout Design mode for table page design is one of the best new features in version 4. No other Web-design tool helps you create and manipulate HTML tables in the same way as Dreamweaver 4 – not even GoLive 5, which first achieved advanced WYSIWYG table-editing ability. This feature has been added with graphic designers in mind.

Designers would rather sketch out table layouts than painfully add tables and cells, then split and combine them to get the layout they need. Now, you can simply switch Dreamweaver from Standard mode to Layout mode (and back again), and actually draw the tables and cells wherever you like on the page. The only disadvantage to this method of layout is that your HTML will consist of many empty table cells that then need to be managed intelligently.

This new feature speeds up design and layout of Web pages as you only have to sketch out the layout of your pages for Dreamweaver to automatically convert it into tables and cells in HTML.

### New assets for all

Managing all the source images and draft files for a project can be a nightmare in file management. This is particularly true in relation to professional Web sites, that must change constantly and have to be updated incredibly frequently in order to survive. For this reason, a new Asset panel in Dreamweaver 4 – similar to the one in Flash 5 – helps keep track of all your site data. You can now preview, store and manage your source images, text colours, URLs scripts, Flash content, movies, content templates and library items. You can sort your data into Favorites for frequently used items, group related assets together for specific projects, and assign them individual nicknames for easy searching.

### Site reports

The importance of getting feedback on Web designs is vital in the creation process. It can make or break a professional project if a certain element has been accidentally overlooked. Checking code by hand for the tiniest HTML error somewhere in the midst of massive lines of code can be very a time-consuming – not to mention dreary – job. This is especially true if a site is being worked on by a large number of developers. Print designers needn't worry about the same issues as Web designers; for example, checking file sizes, browser compatibility or missing ALT tags. Luckily Dreamweaver's Site Reporting tool built is fast and powerful enough to cope with the largest of sites.

The Site Report feature is now much



### RoundTrip everything

Dreamweaver's integration with other professional Web products – for servers, team working and graphics creation – has been enhanced. According to Macromedia's research more than 75 per cent of professional Web designers also create the graphics for their sites. This makes tight integration of Fireworks and Dreamweaver essential to further speed-up the creative process.

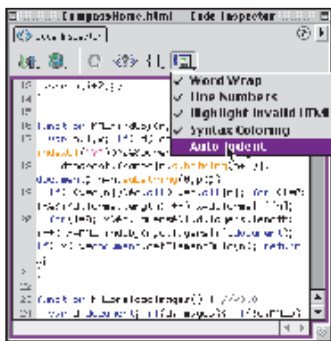
RoundTrip graphic editing (and table editing) between Dreamweaver 4 and Fireworks 4 joins the RoundTrip HTML feature introduced in Dreamweaver 2.

Click on a graphic in Dreamweaver, and it will pop open in an editable format still in Dreamweaver without even having Fireworks running on your Mac. You can then make your changes fast and efficiently. When the PNG source file is edited in Fireworks, the changes are automatically updated in Dreamweaver, saving you time swapping to a different application.

Cutting, pasting and importing HTML code from Fireworks is simple. To improve workflow in team environments, integration of Dreamweaver with Microsoft Visual SourceSafe, or one of the leading content-management systems, is possible using WebDAV protocol.

Dreamweaver 4 continues, page 50 ▶





more customizable. Depending on the site, it can be set to check for combinable tags, fix common errors, check external links, and remove empty tags. It also lets you save reports as HTML files and print them out. These customizable reports

### Code highlight

*Not only does the improved Code Inspector now offer colour-coding of HTML tags, the HTML navigation has been enhanced to include one-click access to site files and HTML reference, as well as options to view Line Numbers, Word Wrap and Auto Indent.*

allow project managers to produce project-specific reports such as file-size limits or browser-compatibility checks.

A new JavaScript debugger is also available in Dreamweaver 4 to check objects and code errors in your pages, using your browser. It's intelligent enough to understand the scripting differences between the two major browsers, Explorer and Netscape. There's also a Watch list included so you can see where the code fails, and fix it quickly from within a special editor window – a feature that programmers will appreciate greatly.

## Macworld's buying advice

Even without its scripting, table-editing, Flash-text or asset-management features, Dreamweaver 4 would be a worthy upgrade just for the improved user interface. The application's stability, as well as its time-saving drag-&-drop abilities make it the top dog of Web page-design tools once again. As soon as you spend even just a little time having fun drawing tables in Dreamweaver, and creating cool menus with the new Pop-up menu tool, you won't want to live without it. so upgrade immediately.

**Gillian Thompson**



## WYSIWYG Web-database editor

## Dreamweaver UltraDev 4

**Publisher:** Macromedia [www.macromedia.com/uk](http://www.macromedia.com/uk)

**Distributor:** Computers Unlimited (020 8358 5857)

**Pros:** Lets you use a Mac to develop database connectivity; includes all of Dreamweaver 4, and adds bells and whistles

**Cons:** User needs to understand database functionality and have at least a basic understanding of one of the three supported database-development languages.  
**Min specs:** PowerPC; OS 8.6; ASP 2, CFML 4 or JSP 1-capable server.

**Price:** £399 excluding VAT; Dreamweaver UltraDev 4 Fireworks 4 Studio, £499; stand-alone upgrade, £99.

**Star Rating:** ★★★★★/8.1

Unless you're creating a simple home page for your holiday snaps, database connectivity is vital for commercial Web sites these days. An application such as Macromedia's UltraDev positions itself between the designer and the code, much like any WYSIWYG Web-page editor – except that the code isn't HTML, but CFML, JSP or ASP tags.

Macromedia has skipped version 2 and 3 and proclaimed this first upgrade of UltraDev as a version 4. The numerical justification for this is that UltraDev has all the functionality of Dreamweaver 4 (see page 48) plus all the extra bells and whistles added to make Web database-application construction simpler and quicker.

You can now actually build sites in CFML, ASP and JSP using a Macintosh without jumping through tricky, costly hoops in order to obtain the right drivers to be able to connect to the database.

A good example of what UltraDev can enable you to develop is an estate-agent's Web site. A form is used to enter your search criteria – for example, an area of the country or a maximum price. Once submitted, the database is queried by the code and returns any matching results. Other uses for a database-driven site could be online shopping or an employee directory.

The first version of UltraDev required

a Macintosh user to trudge through a complicated process of installing ODBC or JDBC drivers and all sorts of fiddly bits in order to connect to a Windows database. In this latest version, not needing ODBC drivers is therefore a major plus point for Mac-based developers. In UltraDev, this feature is cleverly implemented through the use of uploaded scripts that access data sources located on the server itself. This connection information is then relayed to UltraDev, although developers would be well-advised to use obscure names and passwords for data sources to prevent possible security problems.

UltraDev 4 now allows you to view your database information at the same time as developing your site – something that no other Web tool does yet. This helps designers see exactly what the content will look like when it's live on the Web. GoLive 5, Dreamweaver's closest competitor, includes an extension for developing in ASP within GoLive, but UltraDev offers much more functionality as well as three choices of application server language.

UltraDev now allows a developer to connect to a remote database, cache the data, and continue developing while he or she is disconnected from the server.

The supplied “server behaviours” cover the main essentials you may want to add to your site, including searching and displaying database content, adding and updating records, and creating standard navigational controls such as Previous and Next links. You can also easily create “secure” Web sites via behaviours that provide code to support user login/logout and “secured pages”.

You can also very quickly create dynamic form-content from information held in a database – for example, a pop-up menu listing categories where the category names are held in records in the database.

The downside is that, great and flexible though they are, the supplied behaviours run out of steam at that point.



### Exchange and Web

*Macromedia backs up its impressive product Help files and support by offering the Web-based Macromedia Exchange – where users can download and share powerful extensions for Dreamweaver and UltraDev.*

and anyone wanting a site that goes beyond simple searching and addition/deletion of data will quickly hit a wall and have to resort to hand-coding. However, UltraDev 4 also includes a Server behaviour builder that lets you create your own behaviours.

## Macworld buying advice

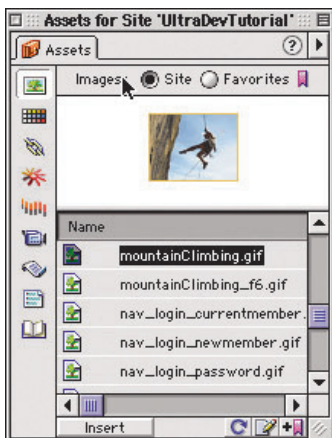
Although WYSIWYG tools can, in most circumstances, offer greater speed and streamlined workflow, in order to really get down to the nitty-gritty it's always better to learn at least the basic code for debugging. And, although UltraDev has various built-in options, it doesn't offer everything you might need.

UltraDev may be daunting for beginners to database-driven Web sites, but it's ideal for those with relatively straightforward needs. However, seasoned programmers and code junkies may find themselves heading back to their text editors relatively quickly.

Gillian Thompson and Scott Bartlett

### Asset strippers

*The new Asset panel allows you to store, manage and sort every element used in your site. Frequently used items such as animations or movies can be given nicknames or stored as Favorites.*





WYSIWYG Web-site editor

## Fireworks 4

**Publisher:** Macromedia

[www.macromedia.com/uk](http://www.macromedia.com/uk)

**Distributor:** Computers Unlimited  
(020 8358 5857)

**Pros:** Fantastically easy-to-use Pop-up menu creator and animation control.

**Cons:** Text manipulation could improve.

**Min specs:** PowerPC G3; Mac OS 8.6; 64MB RAM; ATM 4.

**Price:** £229 excluding VAT; Dreamweaver 4 Fireworks 4 Studio, £349; stand-alone upgrade, £99; upgrade to Studio, £149.

**Star Rating:** ★★★★★/8.9

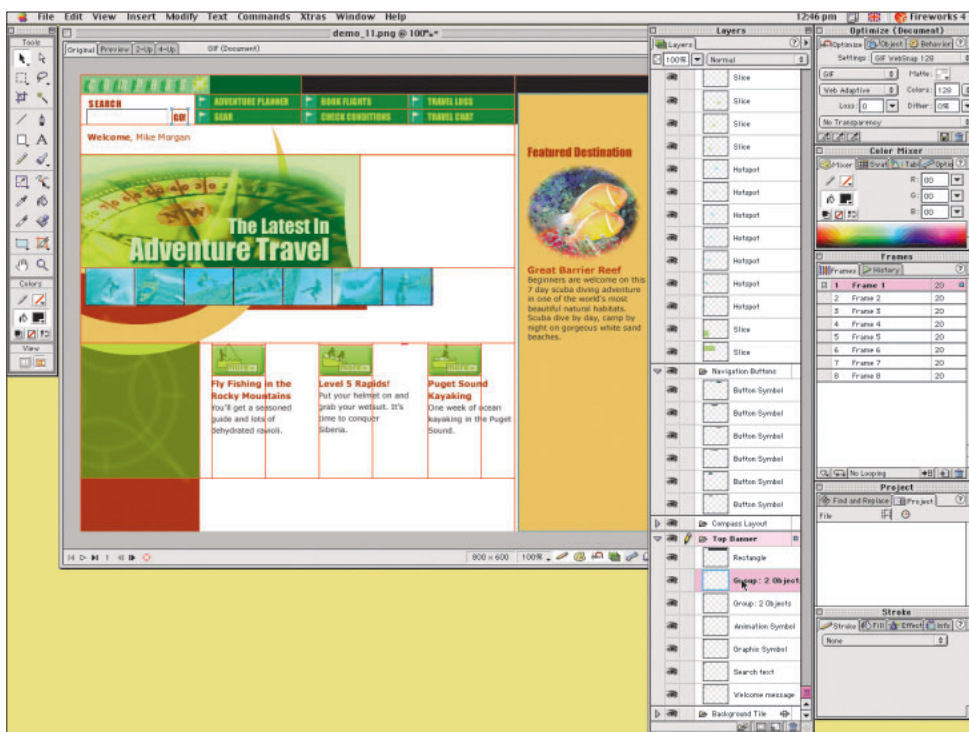
Macromedia's Fireworks has been developed from a product aimed to speed up day-to-day creation and management of Web graphics and animations, to a much-more sophisticated tool that is integrated with all of Macromedia's other Web products. Fireworks now has advanced animation tools and scripting techniques for creating complicated Image Maps, Rollovers and Pop-up menus. User feedback figures highly in Macromedia's motivation to improve its software tools, and so Fireworks 4 now includes many of the suggestions offered by long-time users.

Fireworks started off as the designer's alternative to the long and complicated process of optimizing graphics for the Web using tools designed for producing graphics for print.

One of Fireworks' main strengths was that all of the elements in a design remained completely editable at every point of the production process, something that no other graphics program did at the time. This was a major advantage to Web designers because of the speed at which changes need to be made to a Web banner, or a whole site.

The multitude of new features in Fireworks 4 now includes a complete set of bitmap and vector tools, advanced interactivity, the Macromedia User Interface, additional industry-standard support for importing and exporting files (including FreeHand 9 import support), and a Fireworks import Xtra for Director. Fireworks file import now, at last, includes support for the EPS format. You can also import or export PSD files types with layer masks, and additional effects retained in the file. The new improvements include additional bézier-pen enhancements that you can use to manipulate paint strokes, for instance.

In the past, Web-graphic creation involved using two or even more different applications to allow designers the



freedom they needed to produce fantastic-looking designs – whether it was Adobe Illustrator, Photoshop, FreeHand or a shareware optimization package. Now, most designers' requirements are met with Fireworks 4, although it is not yet absolutely foolproof. In addition, it provides streamlined workflow for page designers and easier updating of graphics.

The revamped user interface includes the same additions as Dreamweaver (see page 48-49); for example, customizable keyboard shortcuts, and the Launcher Bar that includes one-click access to show and hide panels.

### Java juice

JavaScript-based Pop-up menus are widely used for improving navigation around a site – especially if there are many sub-sections within the main site navigation that can change frequently.

In the past, this sort of element has required some knowledge of JavaScript and too-much time spent fiddling about with graphics and slices. Now Macromedia has provided a special pop-up menu creator feature that takes you through each step quickly and simply. While this means you don't get the range of choices you'd get by coding by hand, you do save yourself an awful lot of time. So, although it's not ideal for all demands, it will assist anyone new to Web design – especially if they're using Dreamweaver. Drag-&-drop rollovers have also been made easier to create in Fireworks. Simply drag the target item

from the source slice to the area where you want the rollover to occur – that's it.

### Live animation

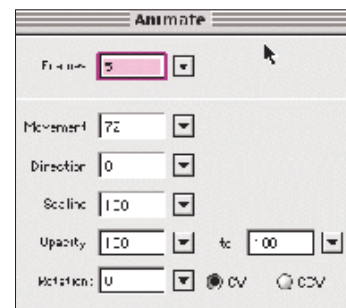
Creating snazzy animations is much easier to do in Fireworks 4, because Macromedia has improved control of on-screen manipulation tools. The properties for an animation can be entered in the new Animation Wizard or altered on the canvas itself. Rollovers and behaviours created in Fireworks can be imported easily into Dreamweaver without losing any of the elements in the animation. Another new feature is selective JPEG compression. This allows you to compress the most important sections of your image at different settings to parts where the quality is not so important, such as the landscape background to a photographed portrait. This allows the foreground to be viewed in crisp and sharp quality while the less important background uses a minimum of that all-important file size.

Fireworks' integration with Macromedia Flash (*Macworld*, October 2000) is tighter too – letting you add bitmap graphics to vector-based Flash sites by editing the library item from Flash directly in Fireworks.

One particular improvement is the ability to manipulate text on the canvas

### Layer player

The Layers palette has also been completely revamped. You can now view a thumbnail of each element in a layer. Advanced masking ability is also now available, and objects are selected when you click on a layer. Drag-&-drop arrangement, lock and unlock, and the opacity and blending settings are much more intuitive and accessible.



### Dyna-wiz

The new Animation Wizard makes creating whizzy effects much easier.

Fireworks 4 continues, page 54





## Flash-er Mac

You can now create Flash elements directly in Fireworks 4 for faster workflow between applications.

at the same time as having the text-editor window open.

This was a specific annoyance to users in previous version of Fireworks, as it was frustrating not being able to view the results of the text manipulation as you changed settings. Thankfully, making adjustments to text properties is easier and faster in version 4.

## Round and round

Roundtrip table editing is another new feature in version 4 of Fireworks. As in Dreamweaver's RoundTrip HTML – where changes made in the layout mode are exactly replicated in HTML, with no unwanted re-writing by the application of a programmers coding – the table or JavaScript edits made in Fireworks are automatically mirrored in Dreamweaver.

## Time savers

In order to speed up repetitive and boring jobs, Fireworks has the ability to process many files quickly using its Batch Process feature.

Version 4 of Fireworks now has a complete Batch process environment making sorting and setting up the files to be altered much quicker and easier for novices and professionals alike.

You can alter the scale, dimensions, and export settings for multiple files, and also run built-in JavaScript commands on files. For example: Convert to Sepia; Create Picture Frame; Distribute to Layers; and adding ALT text to empty tags.

The only moan is that Macromedia could have made the windows within the Batch Process options window expandable – so that you can view all of your files at once, rather than having to scroll.

## Macworld's buying advice

Fireworks 4 has tons of new, well-thought-out features. Any designer worth his salt will upgrade from earlier versions as soon as possible – if only to take advantage of the streamlined workflow enabled by the Common User Interface in all of Macromedia's products.

Although Adobe Photoshop 6.0 now includes a 'Save for Web' feature – basically ImageReady integrated into Photoshop – the additional animation and scripting features in Fireworks 4, as well as the competitive price for a Web-dedicated graphics application, keep the new version on top.

**Gillian Thompson**



## Macworld's buying advice

Contour's iMac UniRiser has more obvious uses than the G-Riser, as it raises the iMac's screen to a better viewing level and provides a shelf for Zip drives, CD-Rs and such like. The G-Riser liberates a bit of desk space and possibly does your Mac's cooling system the power of good. If £18 for such delights strikes you as expensive for a couple of bits of well-crafted plastic, then stick with your 2cm gap. But consider the benefits of not losing so many pens and paper clips, and imagine the kudos of having a Power Mac four inches taller than everyone else.

As for the G-Rack, at last my CD burner sits flat on top of my minitower. I won't be using the CD slots, but I can imagine that a lot of people will take advantage of this neat storage solution. £15 does seem a lot to pay for a hunk of plastic, but it's cheaper than a harsh round down the pub. Treat yourself.

**Simon Jary**

**Power Mac accessories**

### G-Riser

**Manufacturer:** Contour  
020 8731 1410  
www.contourdesign.com

**Pros:** Power Mac on stilts; frees space underneath Mac; reduces dust and debris, maybe performance.

**Cons:** Performance boost claims unproven.

**Price:** £18 excluding VAT.

**Star Rating:** ★★★★★7.7

### G-Rack

**Pros:** Levels top of Power Mac for adding drives; handy space for 16 CDs.

**Cons:** Not quite as clear as G4 handles, not as misty as G3's.

**Price:** £15 excluding VAT.

**Star Rating:** ★★★★★7.5



Jonathan Ive's innovative industrial design work at Apple has already won every prize going, so surely the Power Mac is perfect...?

Not exactly. Most beige-box computers sit flat on the desk – but not Apple's blue-&-white G3 Power Mac or Graphite G4, which rest on their tough plastic handles. This doesn't make them any less stable, but it does create a pen-and-pencil trap underneath these minitowers. And the Mac's top is slightly curved and therefore limited in flat space by those big handles.

## Taking the Riser

This 2cm gap between desk and tower base is a cunning piece of Apple design that aids the Power Mac's cooling system. Feel underneath your machine, and you'll discover a cheese-grater-like series of holes on the left-hand side of the base. Apple is proud of its computers' low-level noise emissions – and any chance to reduce fan activity is taken.

While you had your hand underneath your Power Mac, your now-dusty fingers probably brushed a couple of biros, a few paper clips and a couple of Post-It notes. Yes, that neat design feature that saves your ears an aural bashing also conjures up a ballpoint Bermuda Triangle.

Enter Contour Design's G-Riser, an attractive way to lift your Power Mac even further off the desk (a full four inches, in fact) – giving you ample room to tame that once-mysterious gap. Any stray pen is easily recovered – well before you start accusing the person sitting next to you of pinching it. The G4's cooling system's dust-and-dirt uptake is also

reduced, as you now have sufficient space beneath the raised G3/G4 to brush away office debris.

Contour claims that this deeper gap enhances the Mac's airflow, resulting in cooler operation and therefore greater system reliability and longevity. This seems logical, but untestable in the short term. It does give you space to park your keyboard and mouse when you need all the space your desk can offer. If you keep your Power Mac on the floor, the G-Riser's anti-dust capabilities become even more desirable – you can even fit a vacuum brush under there.

The G-Riser certainly complements the Power Mac's case style – especially the look and shape of the G4's crystal-clear handles. Its shape – but not its colouring – matches the blue-&-white G3. Forget the Cube's minimalism, get taller.

## On the Rack

The Power Mac's curves are all very nice, but balancing CD burners, Zip drives and other stuff on top of it ain't easy. Forget PCI slots, one of the joys of owning a tower is its vertical expansion. My old Power Mac 8500 was a real tower – with six different drives piled high on its flat roof. My G4, on the other hand, has a CD-RW wobbling on its head.

Contour's G-Rack is a neat solution, snapping on top between the G3/G4's handles to create a flat foundation for upwards growability.

The G-Rack also has 16 slots that you can stack CDs in, making the dormant top area that little bit more useful. Its clear plastic isn't as crystal as the G4 handles or G-Riser, but it still fits in well overall.

**Browser giant**

## Netscape 6

**Publisher:** Netscape  
www.netscape.com

**Distributor:** Et cetera  
(01706 228 039)

**Pros:** Futuristic look-and-feel; small memory requirements.

**Cons:** Crash prone; lots of needless clutter.

**Min specs:** Mac OS 8.6; PowerPC; 64MB RAM.

**Price:** Free

**Star Rating:** ★★/6.5



Netscape is finally back on the Mac, with a new version of its browser software. Version 6 is the first major release since 1998's Communicator 4.5 in . In the meantime, Microsoft has established supreme dominance in the browser wars.

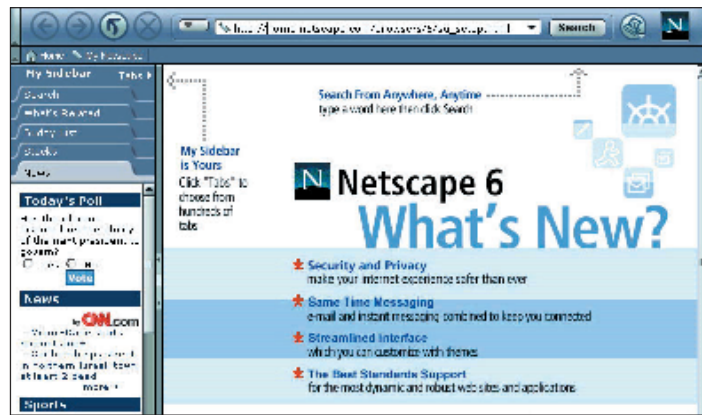
Following a routing by Microsoft's Internet Explorer (IE) on the PC platform, Netscape staged a Dunkirk-like retreat to AOL and regrouped its forces. Netscape 5 spent two years in the company's skunkworks, and as the plaything of the open source community through mozilla.org, but without any official release. Now, with Netscape 6 (N6), it's D-Day.

Installation is simple and well handled, although it's hard to determine where the installation ends and the registration for Netcenter begins. This means if your not careful, you'll find yourself with a netscape.com email address and being barraged by promotional mailings.

### New look

The browser, Navigator, is the core application for most users, and has undergone a major interface redesign, with a sleek futuristic look – called a Theme – a refined top bar with only five buttons for forward, back, reload, stop and print, and the location bar. Access to the other components of the Netscape suite are via a little control panel in the bottom left hand corner. It may not be everyone's cup of tea, but I certainly prefer it to IE5's highly derivative iMac look-alike approach.

Under the bonnet, so to speak, Netscape is powered by Gecko. It's the result of extensive R-&-D by Netscape, building the architecture from the ground up to try to ensure a small, fast and compact application that bucks the bloatware trend that has become a feature of the browser wars. However, it's hard to see the evidence of this – the minimum memory requirements for N6 are 16MB compared to just 7MB for IE 4.5, though you could add another 6MB for Outlook Express. The actual Netscape app itself is a mean 227Kb, but the Netscape folder as a whole is



### Future fantastic

Netscape's futuristic look aims to simplify the Internet surfing experience, but will this help it regain the ground it's lost to the all conquering Microsoft's Internet Explorer?

over 28MB compared to 4.5MB for IE. This would be irrelevant if the application was faster to launch and run than IE, but there's little evidence to support this. And Netscape is still crash-prone, bringing up the talkback agent application with annoying regularity.

Netscape 6 possesses the very latest Java support, thanks to the Open JVM Interface (OJI). OJI lets you download and use new OJI-compliant Java Virtual Machines within the browser the moment they become available.

Gecko is being maintained as an open standard, with Netscape hoping that it will be adopted across the whole range of internet-enabled devices – such as PDAs, handhelds, set-top boxes and mobile phones. It will certainly help Netscape's cause if it can establish its browser as the open source standard across all platforms.

### Pick-up the tab

Two of the most obvious features that have been added in N6 are MySidebar and Customizable Skins. MySidebar will seem pretty old hat to IE users – it's a collapsible side panel that can be personalized to display the latest news, a search window, buddy lists, tips and stocks. Basically, this is a way to get third-party content providers on screen as much as possible. You can add more tabs through the Netscape.com Web site. A cool tab that should have been included by default is WebCalendar, which allows you to use your browser as a scheduling tool as well.

Customizable skins are an infectious disease that is spreading across most software releases these days. Known as Themes in N6, they do not permit the wholesale alteration of the user interface, but help to conserve some consistency.

Having AOL as a parent organization

means that Instant Messaging (IM) is fully integrated into Netscape 6, with Buddy Lists also part of MySidebar. A neat feature, if you're into IM, is that when you send an email you can instantly see which of your Buddies are also online.

The email application is fine, and also contains a means of accessing newsgroups, and managing multiple accounts and mailboxes. But, it's not as sophisticated as Outlook Express – or Entourage.

As a consolidated browser platform that works virtually identically across Mac, Windows and Linux, and with the same underlying technology applicable to other Internet devices, N6 is a boon for Web developers and designers. It boasts to be the most standards compatible browser available. Developers can structure content using HTML 4.0 and XML, format it using Cascading Style Sheets (CSS) level 1, position it using CSS2, access it from JavaScript using the World Wide Web Consortium's (W3C) DOM level 1, and represent lists of resources using Resource Description Framework.

JavaScript 1.5 makes it possible to create interactive-Web content and rich Web applications using these standards.

Having said that, every browser release means an extra platform to test on, and it's disappointing to find sites that work in Netscape Communicator 4.7 fail in N6.

### Macworld's buying advice

Netscape 6 is a good product. In many ways, it sets the standards for the next generation of Web applications. But, whether it will be enough to recover some of the territory lost to Microsoft remains to be seen.

Martin Gittins

**Cheap mono-laser printer**

## GCC Elite 21

**Publisher:** GCC (020 8754 6000)  
www.gccprinters.com

**Pros:** Fast; cheap; duplex and enhanced half-toning.

**Cons:** Not as versatile as a colour printer.

**Min specs:** Ethernet

**Price:** From £999 excluding VAT

**Star Rating:** ★★★★★7.6

For many people on the creative side of Macintosh computing, mono printing is a thing of the past. Colour ink-jet printers, colour laser-printers and other colour options have all become cheaper and higher in quality than before. However, sometimes a mono laser is the right tool for the job. GCC has such a tool in the new Elite 21, a fast, cheap and high-quality mono laser.

The Elite is the fastest printer GCC has produced. In the past, it concentrated on high-quality printing rather than competing on speed. The Elite produces crisp text and sharp graphics due to its 1,200-x-1,200 dpi resolution. This is double your average laser printer, and four times as sharp as earlier models.

Networking is included in the DN version of the Elite 21. This is in the form of 10/100BaseT ethernet, and it also has USB for connection to a single machine. If you have a Mac you will always be better off connecting via ethernet – any USB-equipped Mac has also got 100BaseT ethernet, which is much faster than USB.

### Elite class

There are three versions of the Elite 21. The DN version that we tested has a built-in duplex function to enable double-sided printing. The next model up has double the memory at 64MB, the same duplex feature plus a 4GB hard drive for holding spooled print jobs. The real bargain though is the base model that doesn't include the duplex or other features, but costs just £999. It can still print at a healthy rate, but you don't pay for frills that aren't needed.

The claimed speedy printing is fast. At a rate of 21 pages per minute, the sheets fly out. If you're used to printing on a colour laser this will be a shock, as most colour lasers are sluggish even when only printing in monochrome. If you currently use an ink-jet printer, the speed will spin your head.

Colour lasers often forget the mono

needs of a user. The Elite 21 has enhanced half-toning that makes even photographs look good in monochrome. GCC also has an A3 printer, though not quite as fast as this model.

### Macworld's buying advice

The DN version of the Elite 21 has a duplex unit attached, which makes it ideal for the small- to medium-sized office. The speed is enough to satisfy most busy offices, and fast enough that graphics pros won't hold up the print queue. I'd still recommend looking at colour options depending on what you want from your printer. Home offices may well be better off with a sturdy ink-jet printer, and the graphics crowd might push for a colour. But for just about every other office, the Elite 21 DN will fit the bill.

David Fanning



### Mono-mania

The GCC Elite 21 mono-laser can spit pages out at 21 per minute – far faster than an ink-jet. The model shown has an optional, extra output tray.

**Graphics-creation program**

## Opular Charts

**Publisher:** Ovinity www.ovinity.com

**Distributor:** Digital Toolbox (020 8961 6622) www.digitaltoolbox.com

**Pros:** Fills in the large gaps of Illustrator's Graphs; tree graphs will appeal to Web-site designers.

**Cons:** Overly complicated interface may confuse all but hardened chart pros.

**Min specs:** Illustrator 8; PowerPC; Illustrator 9 needs Opular Charts 1.0.1, due to an installer bug.

**Price:** £85; £75 via the above Web address. Web site (both prices exclude VAT)

**Star Rating:** ★★/6.3

Opular Charts is a graphics plug-in for Illustrator 8 and above. It's aimed at designers who specialize in producing info-graphics.

It has been developed to fill-in for the inadequacies of Illustrator's own chocolate fireguard of a feature, Graphs. The biggest complaint about Graphs is its inflexibility of design and editability. These are the inadequacies addressed by Opular Charts.

Opular allows for control over all chart attributes, including height, width, colour and stroke thickness. This means Opular

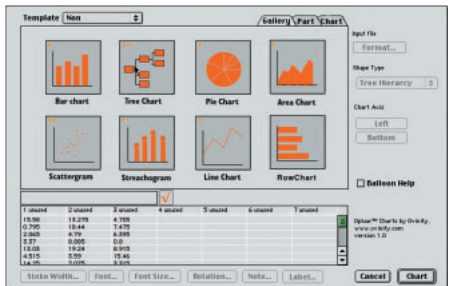
can convert data in a one-click fashion into one of eight chart forms: bar, tree, pie, area, line, row, scattergram and streachogram. The tree-chart options will appeal to those drafting Web-site hierarchies.

As with Illustrator's Graphs, Opular's charts are determined by data copied from other applications. A word of advice here – when arranging data in columns, use the tab key. Opular doesn't recognize space-bar spacing as formatting, and if you use this to separate data into columns, it will end up as a jumbled mass along the Y-axis.

On one level, Opular Charts is splendidly intuitive and simple to use. Copied data is converted into a chart by going to Paste as Opular Chart option under the Edit menu. This takes you to the three-tab interface, consisting of: Gallery, which displays chart-type options; Part, the editing engine-room; and Chart.

Inputted data appears automatically in the seven-column data-preview area, and is handily translated into all of the eight chart-types, which can be toggled through in the Galley. Basic editing of components along the axes – increments, for example – is also simple, offering control over any chart's skeleton.

Yet putting flesh on these bones is far from simple. It's through the Part area



### Pro tool

Opular Charts automatically converts data into eight chart types – including tree charts, which are ideal for designing Web sites.

that the fine-tuning takes place, but be warned – it's tough. Part's windows look like maths O-level geometry questions, scattergunned with arrowed lines, measurements and angles. Confusingly, into this mix are spat buttons that promise control over width and other elements. What they lead to, though, are dialog boxes whose options read like adjuncts to the same geometry questions.

### Macworld's buying advice

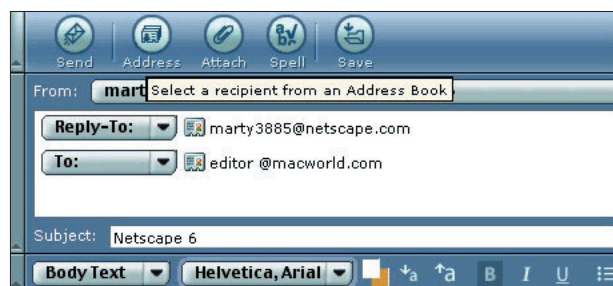
This software bears the hallmarks of being designed by a charts veteran, and as such, it demands a similar pedigree from the user. This is one for chart pros.

That said, Opular has plenty to offer those pros willing to invest £89 – and a good deal of time – to rid themselves of the limitations of Illustrator's Graphs.

Sean Ashcroft

### Needs of the many

The email client lets you handle multiple accounts as well as newsgroups.





**Classic-synth emulator**

## Native Instruments B4

**Publisher:** Native Instruments  
www.native-instruments.com  
**Distributor:** Turnkey  
(020 7379 5148)

**Pros:** Compared with the original, the B4 has the advantage of a much wider range of presets.  
**Cons:** The DirectConnect feature only works with systems running on Pro Tools TDM MIX cards using DAE version 5.  
**Min specs:** PowerPC; Mac OS 8.0 or later.  
**Price:** £119 including VAT  
**Star Rating:** ★★★★★/9.0

With this new B4 VST plug-in, Native Instruments has come up with a gem. Quite simply, it's, the best simulation of the classic Hammond B3 tonewheel organ and Leslie rotating speaker sound that I've ever heard – and I've tried many. VST – Virtual Studio Technology – plug-ins work with music software such as Cubase. "Virtual instruments" – software emulations of classic instruments such as the B4 – let you side-step the hassles of recording these instruments, by making them available as simple plug-ins for computer-recording systems.

Native Instruments has modelled all the tonal characteristics of the organ and the rotating speaker – complete with the faults of the original, such as key-click, which many musicians regard as a part of the sound. This modelling process is CPU-intensive, so you'll need one of the faster models for best results. Don't even think about using a computer with less than 250MHz clock speed – and a 500MHz machine is much more suitable.

The B4 is supplied both as a stand-alone application and as a plug-in which works with VST 2.0, ASIO, MotU MAS and Digidesign's DirectConnect. Using DirectConnect you can feed two audio channels from the B4 directly into Pro Tools. The B4 also works with any



### Padded out

The B4 Hammond-organ emulator features all the keyboards, pedals and drawbars of the original.

audio cards with Steinberg ASIO drivers – providing plenty of choice. In this case, Cubase VST is an ideal host application, and the B4 can also be used as a VST insert effect. Any audio input to the plug-in can be processed using the B4's Scanner Vibrato, Overdrive, and Rotator effects, and mixed in with the unprocessed sound. The B4 can also be used as an AudioInput plug-in for Digital Performer.

Two views are provided in the B4 window. The main view shows the organ console with the upper and lower manuals, the bass pedals, the drawbars, the expression pedal and the performance switches. The Control View shows all the controls you need for editing in more detail. You can play the different manuals using three different keyboards set to different MIDI channels, or you can play everything from one keyboard using the keyboard splits mode. One thing that Hammond players will immediately miss is the hands-on control of the drawbars, which many musicians adjust

continuously while playing. The good news is that you can hook up any box of MIDI faders, such as the Peavey PC1600x, to provide real controls for the drawbars.

The icing on the cake is the rotating speaker which speeds up and slows down smoothly when you switch between speeds – just like a real Leslie would – and the software even lets you adjust the slow and fast speeds to your liking. The amplifier controls can also produce a wide range of different sounds – from clean to overdrive – and there is even a set of controls provided to emulate the way the virtual microphones are set up around the speaker cabinet.

### Macworld's buying advice

If you are serious about the Hammond sound – then you need the B4. The bonus is that you can even use the Leslie rotating speaker simulation as a VST insert-effect processor with VST-compatible software. So you can play your guitar through the Leslie as well.  
**Mike Collins**

tuner is useful for anybody. The problem is that it's difficult to justify spending £139 just to be able to watch TV on your Mac. You can get a pocket TV for that amount of money. However, if you need basic video-capture and want TV on your Mac, MyTV is just the job.

**David Fanning**



### Macworld's buying advice.

MyTV is perfect for a couple of little jobs, such as capturing video clips for the Web or email. These are only really useful for people with specific needs, while the TV



### Strip-tease

With the TC|VoiceStrip plug-in Spark XL you can clean-up your old cassette and vinyl recordings.

Spark XL is a stereo-sound file editor that lets you transfer audio files to and from popular samplers, and prepare audio files for burning to CD. It features an attractive user-interface with a Browser View containing the list of files you have opened into the project – a Playlist showing the order of the files selected for playback, and a waveform editor and overview.

A second window, the Master view, contains the Master faders and the FXmachine – which lets you route up to four parallel-audio streams, each through a chain of up to five Spark or VST plug-ins. Spark's FXmachine can also be used as a plug-in itself, not only within Spark, but even within Logic Audio, Cubase VST or Digital Performer.

Spark XL has a couple of its own plug-ins to provide de-clicking and de-noising – ideal for cleaning up old vinyl or cassette recordings – and also comes with several VST plug-ins. These are really

of the cheap-and-cheerful variety, so serious users will want to buy better-quality plug-ins from Steinberg and others. A Batch Processing feature is also provided – allowing you to convert batches of files to other formats, while simultaneously performing additional audio processing, or applying VST plug-in processing.

The good news is that Spark XL now features a second Master window which allows the use of Pro Tools TDM plug-ins as well. The bad news is that you'll need plenty of DSP (Digital Signal Processor) power to run more than a couple of TDM plug-ins – so you'll probably need to buy an extra MIX card, at great expense, for best results. Also, Spark XL crashed frequently on my G4/500 dual-processor – especially when I tried inserting more than a couple of TDM plug-ins – even with the TDM metering disabled to conserve DSP usage.

### Bugging out

Adding to the buggy feel, is that a worrying message often appeared saying that the "Sampling frequency has changed", even though I hadn't.

One of the neatest things I was able to use Spark XL for was to import sampled drum kits from my Akai CD-ROMs as AIFF files to use in Pro Tools and Cubase VST. Normally, the Mac ejects Akai discs, but Spark will read these discs while its Import window is open. Spark XL also lets you open more than one TDM plug-in window at a time, which I found very useful when adjusting the compression settings, for example.

The review package came with

additional software: including Mercury-1, a useful monophonic synthesizer; and Spark Modular, a modular analogue-synthesizer simulation – both of which worked well in Spark XL and Cubase VST. One problem I ran into here is that you have to download a special IODriver.DLL file from the TC|Works Web site to run Spark XL successfully with DAE 5.x. And, you need a different DLL file to work with versions 1.6 and 1.61 – which is installed by the Spark Modular CD-ROM.

### Macworld's buying advice

Spark XL now provides fierce competition for BIAS Peak as the audio-editing software of choice to use with Pro Tools TDM systems. Overall, the package is excellent value for money and provides several unique features.

**Mike Collins**

### Mercury rising

TC|Works' Mercury-1 monophonic synthesizer plug-in runs perfectly with Spark XL.



Do you ever get the feeling somebody is watching you? Perhaps somebody is – with this new miniature camera from Swann. It isn't strictly speaking a Mac product, to use it with a Mac you need MyTV from Eskape (see opposite). Together the two products add up to a nifty surveillance outfit for fun, security or even a little home-brewed espionage.

The camera is 2.5cm across, though the lens itself is only 4mm in diameter. This means it can easily hide in anything you can poke a hole in. It is currently sitting on my desk stuck to the inside of a Christmas card. Even knowing that there is a camera doesn't appear to help people figure out where it is. With the image from the camera displayed on my screen, people still had difficulty finding it. If they weren't looking for a camera, it would be practically invisible.

So, apart from jolly japes in the

office, are there any legitimate uses for the SpyCam? One good use is as a video entry phone. When a caller turns up unexpectedly you can covertly check who it is – TV-detector people will hate it. Also, with some software from NuSpectra (www.nuspectra.com), called SiteCam 5.0, you can have your own Webcam, allowing people to spy on your own comings and goings. To use this a permanent Internet connection is needed, so unless it is set up to broadcast from work, or you're one of the few with ADSL, you're out of luck.



One drawback with the SpyCam is the lack of audio. It isn't much fun spying on your boss' private meetings if you can't hear what he's saying. A separate microphone can be used, but it's likely to be bigger than the camera.

I thought there'd be rules on when and where you can spy on people. But, a quick search on the Internet turned-up zilch – bonus.

### Macworld's buying advice

Whether the SpyCam is used for fun or espionage, it will provide hours of fun for a budget James Bond.

**David Fanning**

### Paranoia paraphernalia

Wherever you are, you may be being watched by the SpyCam. This tiny camera can be hidden just about anywhere – unfortunately, it has to be plugged in to a computer.

### Control freaking

Everything from the percussion and treble, to the pedal and tempo can be adjusted by the B4 emulator.



**Turn your Mac into a TV**

## MyTV

**Publisher:** Eskape Labs  
www.eskape.com  
**Distributor:** Hauppauge  
(020 7378 1997)  
www.hauppauge.co.uk

**Pros:** Video capture; TV tuner.  
**Cons:** Only good value if both TV and video capture is needed.  
**Min specs:** USB.  
**Price:** £139 including VAT  
**Star Rating:** ★★★★★/8.1

Some people aren't lucky enough to have their Macs in the same room as a TV. Either you use a Mac at work, where television access is not a priority, or you have a home office away from a living area. If you have ever wanted to keep up with Eastenders while working late, or getting the latest football scores while writing your invoices, read on. MyTV from Eskape Labs adds a TV tuner to the Mac through the USB port. It also does some other, more useful things, so it should be tax deductible.

The one feature that makes MyTV a professional tool is the video capture. You can plug in a composite or S-Video signal, and watch the video on your monitor.

Better still, you can capture that video to disk. It won't be the same quality as DV capture but it's still useful for grabbing bits of video for Web work. You can capture video directly from TV too.

Being a USB device you can use MyTV with any USB equipped Mac. That includes all G4 and most G3 Power Macs, plus some PowerBooks and all iBooks. It uses the USB port to power the unit, meaning cables are kept to a minimum.

### Macworld's buying advice.

MyTV is perfect for a couple of little jobs, such as capturing video clips for the Web or email. These are only really useful for people with specific needs, while the TV

**Sound-file editor**

## TC|Works Spark XL

**Manufacturer:** TC|Works  
www.tcworks.de  
**Distributor:** Arbitr  
(020 8207 5050)

**Pros:** Extremely versatile audio package which, uniquely, lets you work with VST and TDM plug-ins at the same time.  
**Cons:** Only supports DirectConnect to TDM systems with ProTools MIX cards.  
**Min specs:** PowerPC; Mac OS 8.1 or later; a Digidesign MIX card; Digidesign DAE/DSI software version 5.0 or later.  
**Price:** £399 excluding VAT  
**Star Rating:** ★★★★★/8.0

**Turn your Mac into a TV**

## SpyCam

**Manufacturer:** Swann  
www.swann.com.au  
**Distributor:** Computers Unlimited  
(020 8358 5857)

**Pros:** Small.  
**Cons:** Needs MyTV to work with a Mac.  
**Min specs:** MyTV or compatible video adaptor.  
**Price:** £99 excluding VAT  
**Star Rating:** ★★★★★/7.4

**High-end music notation**

## Finale 2001

**Publisher:** Coda Music  
www.codamusic.com

**Distributor:** Et cetera  
(01706 228 039)

**Pros:** Comprehensive notation program; improved Setup Wizard.

**Cons:** Mostly unexciting new features; MIDIScan feature works poorly.

**Min specs:** System 7.6.1; PowerPC.

**Price:** £399 (excluding VAT)

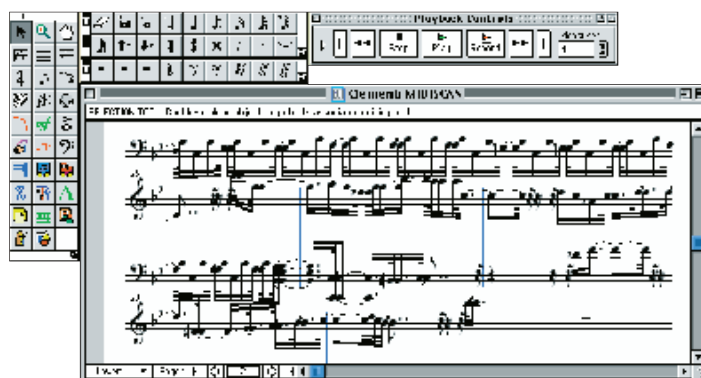
**Star Rating:** ★★★★★7.8

Every 18 months or so, Coda Music Technology releases an upgrade to Finale, its music-notation program. Some of these upgrades have enhanced the program. Others, such as the recently released Finale 2001, offer improvements that look great on paper, but are less spectacular in the real world.

Despite the largely lacklustre new features, however, Finale remains the Mac's premiere notation application. Whatever type of score you're creating – choral, orchestral, or jazz – Finale is likely to provide all the tools you need to produce professional-looking results.

Coda has changed few of Finale's notation-creation capabilities in the 2001 edition. The improved Setup Wizard makes it easier to lay out a score's foundation, and Finale is smarter about fitting music systems onto the page. But most of the changes focus on getting music in and out of the program.

For example, Finale 2001 includes MIDIScan, an optical character recognition (OCR) component that allows you to import scanned, printed scores as editable notation. But even with uncomplicated scores, the resulting file is a barely recognizable mishmash of notes.



### Scant scanning

Finale 2001's MIDIScan leaves much to be desired – there's better music scanning software about.

Fortunately for those interested in OCR, Finale can import files produced by a more capable program, Musitek's SmartScore (£254; Et cetera).

A useful feature is MicNotator, which places notes in a score by playing single pitches into a microphone. When using Apple's PlainTalk microphone to record from a recorder, Finale notated it with 80 per cent accuracy.

Coda has also added commands for exporting Finale files to the Web via Coda's Finale Showcase and the

Net4Music Web site. By the time you read this, Coda should be distributing Finale Viewer, a free plug-in for viewing, playing, transposing, and printing Finale files saved as Web pages.

### Macworld's buying advice

Finale 2001 is a great choice for people seeking the most comprehensive notation application available for the Mac. Finale 2000 users, however, already have the program's best elements.

**Christopher Breen**

**Free music-notation app**

## Igor Engraver 1.2

**Publisher:** NoteHeads  
www.noteheads.com

**Pros:** Cheap; intuitive; supports a wide range of synths.

**Cons:** May be too simplistic for pros.

**Min specs:** PowerPC; 32MB RAM; QuickTime Musical Instruments.

**Price:** Free

**Star Rating:** ★★★★★8.4

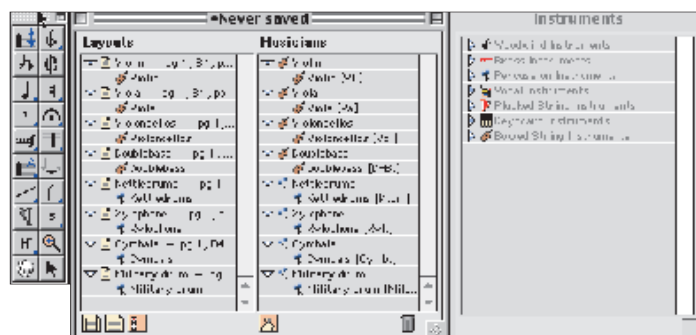
It's a tough job writing out musical score by hand. I spent hours as a student writing pages and pages of the stuff – if I'd known about Igor Engraver then, my assignments would have had fewer mistakes in them.

One of the main gripes many people have about music notation applications is that they assume a great deal of musical knowledge. Igor presents the user with a friendly, no-nonsense interface. At start-up, the usual blank score window is missing, being replaced with a Musicians window. Instead of relying on staff-based parts, the program creates virtual musicians, in turn generating the appropriate staff on the paper.

A colossal range of instruments is supported – from the usual violins, to the Hurdy-Gurdy – so you needn't worry about not being able to notate that Turkish folk trio you're working with. Whole ensembles can be assembled in the Layout pane of the window, and dragged across to the Musicians pane to generate all the staves on the page.

There are various ways of getting the notes onto the paper. They can be dragged from the note palette directly onto the staff, input from a computer keyboard – which allows control over note-length – or via a MIDI keyboard.

The latter can be done in two ways: step-time – where the duration of each note is set on the computer – and the



### Take note

A wide range of synths, from all major manufacturers, is supported by Igor, as is the GM (General MIDI) standard, which can utilize QuickTime to play MIDI events back without external gear.

actual events played on the MIDI device. This can often yield very robotic-sounding results, however, so real-time recording is also available.

Once all the notes have been input, they're easy to tweak. In this respect, Igor stands out – if, for example, a series of notes are linked together with a long slur and one of them needs to be raised in pitch, the slur will move and smooth itself out in real-time as the note is dragged up the staff. Most other programs require the slur to be edited separately. Equally, crescendos are self-adjusting – and dynamic markings actually affect the MIDI output.

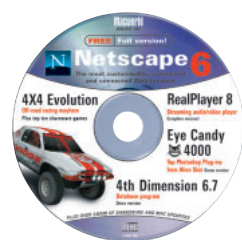
Igor uses Opcode's free Open Music System (OMS) to deal with MIDI traffic.

While this doesn't have to be installed to use Igor, it's needed if you want an audio playback of your score. This is augmented by Igor's "WYSIWYH" (What You See Is What You Hear) output. How well this works depends on the quality of your outboard equipment – but the basic premise is simple: the program will be able to tell the difference between a trill on, say, a cymbal and a clarinet.

### Macworld's buying advice

It's rare that a freeware program will give the big boys a run for their money. While Igor may not have the power-user features of Finale, home – or even some professional users – should take note.

**John Steward**







Flabby-file slimmer

## DocuSlim 1.14

**Publisher:** Gluon [www.gluon.com](http://www.gluon.com)

**Distributor:** XChange  
(020 7588 5588)

**Pros:** Optimizes most image types; serious reduction in image/XPress file sizes; fully automated.

**Cons:** Only recognizes Photoshop-file types.

**Min specs:** QuarkXPress 4.04 or later; Adobe Photoshop 5.0 or later.

**Price:** £149 excluding VAT

**Star Rating:** ★★★★★/8.4

## XPressImage Pro 4.1.2

**Publisher:** Gluon [www.gluon.com](http://www.gluon.com)

**Distributor:** XChange  
(020 7588 5588)

**Pros:** Creates numerous graphic types; can export to HTML.

**Cons:** Variable QuarkXPress memory requirements.

**Min specs:** QuarkXPress 4.1 or later; Adobe Photoshop 5.0 or later.

**Price:** £129 excluding VAT

**Star Rating:** ★★★★★/8.1

**G**luon has been developing publishing and multimedia tools for over 10 years. The current range cater particularly for real-world needs, the two reviewed here can knock hours of the production process.

### DocuSlim

Production departments often have an image scanned at 300 dots-per-inch and placed on an XPress page at 50 per cent size, zoomed in to the centre part of the picture. When the project has to be sent to another place, perhaps a repro house, the resulting file is much larger than needs be. The image can be down-sampled to 225dpi, cropped to the area used on the page and reduced so that it is placed at 100 per cent in Quark.

Using a Photoshop plug-in and Action set in the background, DocuSlim automates this procedure by optimizing files in a number of ways. First it crops the excess from a picture, allowing for a user-settable area of bleed. Then it resamples to a resolution setting, resizes the image and re-imports it at 100 per cent. DocuSlim can also convert an image from RGB to CMYK. All edited images can be saved with a custom extender.

### XPressImage Pro

Often Quark pages need to be saved in a graphic format, perhaps for proofing to a

client, or placing a low-resolution version on a Web site. XPressImage Pro can export a document or selections from one in 15 main bitmap formats such as JPEG, TIFF, GIF, PDF and EPS. It also handles vector EPS images, including PC and DCS 2.0 formats, by utilizing a Photoshop plug-in (XPI Rasterizer) and an Action set. XPressImage Pro can even embed PostScript fonts and call up extra Gluon Actions, such as creating fancy frames before the Photoshop rasterization process takes place. Missing pictures can be updated automatically, and the handy preview window shows you exactly what the result will be.

To speed up the process, XPressImage Pro boasts a powerful automation feature using "hot" folders.

New features in version 4 include HTML Export, save to clipboard for pasting to other applications and the ability to add precise crop marks.

### Macworld's buying advice

DocuSlim is incredible. In a test with an eight-page colour brochure, the overall file size decreased from 515MB to 130MB. It does have a few drawbacks though. Only images with a Photoshop file creator are recognized, so those directly scanned in, say, LinoColor need their file creator changed. A number of simple utilities can do this.



### The right image

Select from XPressImage's array of graphic formats. The preview window shows clearly what is being converted.

XPressImage Pro is also a powerful package, but, depending on the graphic being produced it can require some serious extra memory for XPress itself – roughly the equivalent of the file being created. With an A4 page at 300dpi, this means at least 50MB more. Failure to do this throws up an unhelpful general error, or can lead to quirky behaviour. The problem doesn't occur when exporting to Photoshop as it uses XPress' own Save Page as EPS facility. The results, however, are very impressive.

**Vic Lennard**



After Effects plug-in

## Boris Continuum 1.0

**Publisher:** Artel Software

[www.borisfx.com](http://www.borisfx.com)

**Distributor:** Polar graphics  
(020 8868 2479)

**Pros:** Several effects unavailable elsewhere; perfectly integrated with After Effects.

**Cons:** The user-interface takes getting used to; slow at times.

**Min specs:** Mac OS 8.1 or later; After Effects 4.1.

**Price:** £290 excluding VAT

**Star Rating:** ★★★★★/7.5

**B**oris Continuum is a suite of plug-in effects for Adobe After Effects – the leading package for creating motion graphics. It includes 23 effects – many available for the first time.

There are three useful compositing filters that can be used to blend layers, plus several time-based filters that can be used to automatically generate loops and sequences, adjust a layer's frame rate, create frame blending, and randomize parameter values over time. Various particle-based filters let you quickly create effects such as Snow, Rain, and Sparks. Also, a Particle System offers detailed control over individual particles as well as the overall shape and movement of the system.

There's also a Trails filter that creates, composites, and animates trails and video feedback behind a source layer. It also lets you apply recursive effects and geometric transformations to the trails.

Several filters are based on a procedural-noise generator that produces animated effects and transitions – including Fire, Burnt Film, and Stars.

There're more parameters to tweak than you can point a camera at. For example, many filters have a group

of PixelChooser parameters. This uses the source image's colour, or luma information, to select which pixels to filter. You can use this to apply a filter solely to the brightest or darkest areas of an image, depending on the luma values you set. A tip here is to select another image or clip to use as a Mask Layer, and use that image's colour or luma information to selectively filter the source image.

The PixelChooser also provides region controls so you can specify which region in the source image is filtered, or apply a filter to any rectangular or oval region and animate its size to create wipes between the source and filtered images.

Designers looking for first-rate 3D tools will not be disappointed either. For example, the 3D Text filter lets you create and manipulate text in 3D space. You can independently adjust the bevels, extrusions, and front and back faces; control the lighting; map media to each of the faces; or simulate different textures on text. The DVE filter can be used to transform a plane in 3D space, apply motion blur, and add three types of lights to the effect – allowing you to produce stunning results quickly and easily. The most powerful effects are the two



### Space-time continuum

Boris Continuum is a set of 23 plug-ins for After Effects – it can be used for blending layers, and adding effects such as snow and rain

Z Space filters that allow you to intersect multiple planes in 3D space, add true 3D lights and shadows, and group objects in containers to perform global parameter adjustments and animations.

### Macworld's buying advice

The previous Boris effects have become essential buys for most designers working with After Effects, and the new selection of effects provided in Continuum looks set to become an even more essential buy.

**Mike Collins**



## MiniPro Mouse

**Manufacturer:** Contour Designs  
www.contourdesign.com  
(020 8731 1410)

**Pros:** Tiny but useable USB mouse; two buttons; sturdy carry case.  
**Cons:** Too small for giant hands.  
**Price:** £32 including VAT  
**Min specs:** USB  
**Star Rating:** ★★★★★7.2

## Wheel Mouse Optical

**Manufacturer:** Microsoft  
www.microsoft.com  
(0345 002 000)

**Pros:** Scroll wheel; three buttons; inexpensive.  
**Cons:** Beige  
**Price:** £24 including VAT  
**Min specs:** USB  
**Star Rating:** ★★★★★8.5

## Trackball Optical

**Manufacturer:** Microsoft  
www.microsoft.com  
(0345 002 000)

**Pros:** Scroll wheel; five buttons.  
**Cons:** This is not a mouse!  
**Price:** £34 including VAT  
**Min specs:** USB  
**Star Rating:** ★★★★★7.5

A computer without a mouse is like a bike without handlebars – it will go, but not where you want it. Apple was the first company to ship a mouse with its computers, and the Mac was therefore a real landmark in personal-computer ease-of-use.

Apple's first two mice were boxy affairs; its next was truly curvaceous. The mouse that came with the iMac, blue-8-white Power Mac G3, and early G4 was shaped like a hockey puck. Everybody hated it, and Apple replaced it recently with its sexy, optical Pro Mouse (see Reviews, September 2000). This now ships with all new desktop Macs, and is available for £46 (including VAT).

If you want rid of your stupid Apple round mouse, two new mice join the Pro Mouse as optional substitutes. There's also a trackball mouse replacement for those that dare to really think different. All three utilize the latest optical technology to do away with dirt-collecting, input-device-degrading mouse balls. No mouse ball means no moving parts to clean or wear down. Now, your every movement is just a trick of the light.

Optical mice work by beaming a light on the surface beneath the mouse and taking pictures of it. To ensure precise tracking – even if you're whizzing around like Jayne Torvill on speed – the mouse takes 1,500 pictures per second. A high-performance digital signal processor analyzes these pictures to determine the direction and magnitude of movement. This data is then communicated back to your Mac, and interpreted into the screen's smooth pointer action.

### MiniPro protected

The MiniPro Mouse (£33) from Contour Designs is about as big as a New York cockroach. But one styled in corrugated clear Apple-like plastics – with choice of five clip-on iMac-colour button tops – the MiniPro is about three-quarters the size of Apple's new optical; see picture, top right.

Just as the cockroach has two brains, the MiniPro has two buttons.

Apple has stuck with one button since day one – don't ask me why.

After you've downloaded the driver software from Contour's Web site, you can configure the smaller second

button to complete your most frequent tasks – for example, scrolling up and down, double-clicking, etc. The driver software also has settings for a third "middle" mouse – ignore this, as the MiniPro has just the two (still one more than Apple's Pro Mouse subtle clicker).

The MiniPro also comes with a sturdy "Pack N' Go" travel case – a bit like a glasses case – to protect it and its cable if you carry it around with your PowerBook or iBook.

### Wheel Mouse high-scroller

Many Macintosh users wouldn't dream of throwing out an Apple-designed mouse in favour of one made by Microsoft, but don't judge Bill Gates' hardware too quickly.

When we reviewed Microsoft's optical IntelliMouse Explorer (March 2000), we rated it highly. At the time, it was a lot better mouse than Apple's yoyo-like affair. Apple's Pro Mouse caught up with the IntelliMouse in terms of optical technology, but didn't include the handy scroll wheel that makes scrolling with a document or window's side bars a thing of the past.

Microsoft's Wheel Mouse Optical (£25) is similar but doesn't feature the Explorer's side thumb buttons. The Wheel Mouse (pictured bottom left) is plainer looking than the silver Explorer – its PC-beige case looks odd next to Apple's latest flash Macs.

Either side of the scroll wheel are two buttons, and the wheel itself can be clicked as a third. Microsoft's IntelliPoint control panel lets you change cursor sensitivity, as well as customize operation of the wheel and buttons. You can set the three buttons to click, double-click, scroll, make the Finder active, launch Sherlock, open an item, cut, copy, paste, undo, or programme your own keystroke.

IntelliPoint's SnapTo automatically moves the pointer to the default button in dialog boxes. Most people would just hit the return key, but for those who insist on dragging the mouse all over their screens to click default buttons (step forward, *Macworld's* keyboard-shortcut-shy Art Director), this is a real boon.

Once people get used to a scroll wheel, they rarely look back. A canvas of opinion in our offices led to two people saying that they couldn't live without one. The wheel works with Finder-level windows and most programs, but not Adobe GoLive or a main document window in QuarkXPress.

### Trackball tricky

A trackball is like an upside down ball-mouse. Instead of moving the

whole thing around and triggering optical responses, you move a ball on its side. If you've never used one before, be warned – it's not as easy as it looks. If you found the PowerBook's – pre-Trackpad – trackball a breeze, then a trackball may be for you.

Microsoft's Trackball Optical (£35) comes with the same IntelliPoint software as the Wheel Mouse and earlier Explorer, and so shares all the benefits of its neat button-programming tools. Having five buttons – including the clickable scroll wheel – further enhances it.

I can't get my head – let alone my hand – around the motions of moving the ball and not a mouse. Fingertip control sounds wonderful, but it made my clumsy digits ache after just a few minutes.

A quick test of *Macworld's* editorial staff showed that I am not alone in this trackball-phobia, but there are certainly some ballers who wouldn't touch a mouse no matter how cute it looked. For them, Microsoft's Trackball Optical (pictured bottom right) is well worth a try. If you are tempted by a trackball, however, Microsoft offers a full refund if you're not satisfied "for any reason" and return it within 30 days of purchase.

### Macworld's buying advice

I like Apple's new Pro Mouse, but can see the advantages of a scroll wheel and programmable buttons. Contour's MiniPro Mouse is dinky and has two buttons but no scroll wheel. With its tough case, it makes an excellent travelling mouse for iBook and PowerBook owners. With its three buttons and scroll wheel, the affordable Microsoft Wheel Mouse is a compelling alternative to Apple's input device – I haven't plugged my Pro Mouse back in. It's let down on looks only; if this bothers you, go for the Explorer. As for the Trackball, I'll leave that decision to the weirdos that like them.

Simon Jary





# DV camcorder revolution

Digital camcorders are hot products — but be sure to make the right choice.

By Seth Havens and David Fanning

**A**mateur movie-making has come a long way since the days of scratchy 8mm footage. Now, it seems, the whole world has gone camcorder mad. The camcorder has appeal across the board — from funny home-videos of the cat playing with Christmas wrapping paper, to art-house movies. Until recently, only the real enthusiast would attempt to edit a movie, as this meant turning to stand-

alone editing equipment. But Apple has now started a home-editing revolution, thanks to the bundling of iMovie — its consumer digital-video editing software — with all FireWire-equipped Macs. Now, a clued-up 10-year-old can produce a decent movie. In this feature, we'll show you exactly what's needed to make your own movies.

Continues on page 72 ▶





Price	£1,957
Manufacturer	Canon
Digital zoom	n/a
Optical zoom	16x
LCD size	n/a
Battery Life	90 mins
Interfaces	DV in/out; composite AV; S-Video; audio-in and out; microphone; headphone.
Stabilizer	Optical
Still media	n/a
Number of CCDs	3
CCD type	½-inch pixel-shift
Lens	Canon (interchangeable)
Contact	0500 246 246
URL	www.canon.co.uk

Ease of use	■■■■■■■
Image quality	■■■■■■■
Value for money	■■■■■■■

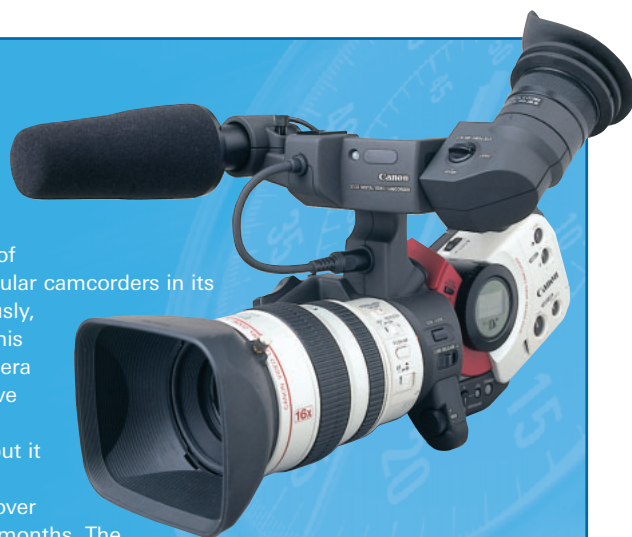
Star Rating ★★★★★/8.9

## Canon XL1

The XL1 has been around for a while, yet remains one of the most popular camcorders in its class. Previously, the price of this pro-level camera was prohibitive for lower-end consumers, but it has fallen dramatically over the past few months. The component design of this model also means you can upgrade each part – including lens, microphone and viewfinder – to keep pace with technology.

A serious-looking camera, the XL1 also delivers serious results. The auto-focus is responsive and, combined with excellent optical image-stabilization, yields great images when filming motion. The detail is sharp, as are its colours. The 16x optical zoom is far superior to the low-end digital zooms of the consumer cameras.

**Macworld's buying advice** Although it may cost twice as much as the low-end models tested, you get much more than twice the machine for your money. It's also user-friendly enough for beginners.



If you have a FireWire-equipped Mac, you're half-way there already. We tested the current crop of FireWire-equipped camcorders – from entry-level to professional broadcast quality.

The first step in becoming a mini movie-mogul involves your computer. Until recently, FireWire came with only top-of-the-range iMacs, Power Macs and the newest PowerBooks. Now, all new Macs – with the exception of the entry-level £649 iMac – come FireWire-equipped. Older, non-FireWire Macs can be upgraded with third-party FireWire cards – though it may be difficult to coax older models to run fast enough for video editing. If you have a non-FireWire iMac, you're out of luck, because they're unupgradeable; if you want to edit movies, you need a new machine.

If you're looking to buy a new Mac for video editing, there are a couple of things to keep in mind. First, the faster the Mac, the better. Video editing is one of the few things that will seriously tax your processor. Aim for the fastest you can afford. If your budget stretches to a dual-processor G4 Power Mac, then buy one. While most software doesn't take advantage of the second processor, lots of video and compression software does. Because of the processor-intense nature of video, the applications do whatever they can to use the available processing power.

The other thing to look for in a new machine is hard-disk space. Although

you can buy additional storage at a later date, it's easiest to get it when you buy the machine. If you're buying a G4 from the Apple store it's relatively cheap to upgrade the size of the hard drive. Doing it at this point will save messing around with internal drives at a later date. As SCSI is no longer included on the Mac logicboard, you'll need to install a SCSI card to drive additional SCSI drives. There are FireWire hard-drives available, but, in our tests, none was fast enough to capture video properly. This may have been because of the FireWire bus being overloaded by both incoming and outgoing video. Whatever the reason, they seem unsuitable for video.

## Software choices

After a FireWire-equipped Mac, you'll need some bespoke software. Newer Macs already have iMovie loaded. The newest FireWire Macs will have the much-improved iMovie 2. If you don't already have iMovie, you can buy iMovie 2 from the Apple Store for £35 (ex. VAT). It's well worth the money, compared to the high-end Final Cut Pro software from Apple that costs £705. Final Cut Pro (FCP) is fantastic software designed for professional video-editing, but iMovie does all the basic stuff that FCP does, plus has some groovy effects, too. If all you want is to make home movies, or even simple movies for work or for presentations, iMovie is ideal.

FCP differs from iMovie in many ways.



## Canon MV3 MC

This model is a classic case of style over substance. In the smallest of the cameras in this round-up, functionality has been sacrificed for compactness. This may be important for you, but be warned, the MV3 is so small that the controls are fiddly and, when playing from the camera through a monitor, the mechanism is clearly audible as background noise.

While colour quality is admittedly good, the auto focus is sluggish and the digital zoom resulted in extreme artefacting. Although Canon cites a respectable battery life of 90 minutes, our experience was that this ran closer to one hour.

**Macworld's buying advice** There are cheaper models that offer the still-photography capabilities of the MV3 MC and comparable video-image quality. If you need the smallest camera around, at least make sure you shell-out the extra £100 or so for the MV3i MC model to get DV-in.

Price	£1,145
Manufacturer	Canon
Digital zoom	40x
Optical zoom	10x
LCD size	2.5 inches
Battery Life	90 mins
Interfaces	DV-out; composite AV (on dock); S-Video; microphone; headphone.
Stabilizer	Digital
Still media	Multimedia card
Number of CCDs	1
CCD type	½-inch progressive scan
Lens	Canon (fixed)
Contact	Canon, 0500 246 246
URL	www.canon.co.uk

Ease of use	■■■■■■■
Image quality	■■■■■■■
Value for money	■■■■■■■

Star Rating ★★★★★/5.9



## JVC GR-DVX10

Like the MV3, the GR-DVX10 is a compact camera, yet this doesn't stop it offering well-designed controls. The zoom control is located at the rear of the camera, so you don't have to balance the body in the palm of your hand while fumbling to zoom, as with other compact designs. There is also a well-placed multifunctional playback knob on the top of the camera.

When focusing on close objects, a detailed image is possible – but this suffers when following motion, due to an unresponsive auto-focus. The DVX10 also has MPEG-capture and a multimedia card for stills. The extra interfaces, such as the digital printer-port, add nothing for the Macintosh user.

**Macworld's buying advice** The expense of this model is due largely to its extra features. A cheaper camera will likely meet your needs, such as the JVC DVL 107, which is nearly half the price.

Price	£1,020
Manufacturer	JVC
Digital zoom	200x
Optical zoom	n/a
LCD size	2.5 inches
Battery Life	50 mins
Interfaces	DV in/out; headphone; JVC GV-SP2; digital printer; microphone; composite AV; S-Video
Stabilizer	Digital
Still media	Multimedia card
Number of CCDs	1
CCD type	½-inch progressive scan
Lens	JVC (fixed)
Contact	JVC, 020 8208 7654
URL	www.jvc.co.uk

Ease of use	■■■■■■■
Image quality	■■■■■■■
Value for money	■■■■■■■

Star Rating ★★★/6.7



## JVC DV500E

This is a thoroughbred of a MiniDV cameras. Firmly in the professional league, the DV500E offers everything you'll ever need. The lens is interchangeable, with a choice between Canon and Fujinon lenses. Additionally, the camera's excellent automatic controls boast manual equivalents.

With three half-inch CCDs, the image from the DV500E is genuine broadcast quality. The auto-focus, zoom, image clarity and audio are all superior. Unfortunately, unless you are a pro, you may well be intimidated by the number of controls and sheer size of this camera, not to mention its considerable weight.

**Macworld's buying advice** The DV500E is a fantastic camera for the dedicated professional. But, at over £3,000 – not including the cost of the battery pack – you have to be serious professional to make this a worthwhile purchase.


Price	£3,250
Manufacturer	JVC
Digital zoom	n/a
Optical zoom	14x
LCD size	n/a
Battery Life	60 mins
Interfaces	DV in/out; audio in/out; monitor out; headphone; VTR-remote; sync-in; microphone; composite AV; S-Video
Stabilizer	Optical
Still media	n/a
Number of CCDs	3
CCD type	½-inch interline transfer
Lens	Canon and Fujinon
Contact	JVC, 020 8896 6000
URL	www.jvcpro.co.uk


Ease of use	■■■■■■■
Image quality	■■■■■■■
Value for money	■■■■■■■

Star Rating ★★★★★/7.5



design





## Panasonic NVDS55B

Another compact camera, the NVDS55B has some thoughtful features, such as its playback controls and a stable, angled docking station. Unfortunately, the zoom is placed on the side where your hand is strapped to the camera. This means that zoom control is awkward. And, should your grip shift, footage may be spoiled.

The zoom performs well for a consumer camera, probably because of the incorporation of an optical-zoom mechanism. However, the NVDS55B is let down by poor contrast and stabilization. While there is the capacity for stills on a multimedia card, an edit-deck interface and full manual-controls, such features cannot make up for disappointing film quality. To add insult to injury, this is compounded by the lack of DV-in.

**Macworld's buying advice** With this camcorder, you're paying for its compactness and features, which may be just fine with you. If, however, you want just to make fun movies, cheaper cameras are available that do the job better.

## Sharp UL-PD6H

Sharp breaks the mould with its ViewCam range of camcorders. The body is hinged in the middle, with the three-inch LCD on one half, and the lens on the other. The main advantages to this are that the large playback buttons are located logically underneath the LCD. It's also possible to grasp the camera firmly, giving a steadier image.

For the undemanding amateur, this easy-to-use model should suffice. However, don't expect top-quality output, as image quality is compromised by lack of clarity and a sluggish auto-focus. With no viewfinder or manual controls to compensate, you'll only ever produce home-movie standard work. The lack of an external battery-charger also restricts the functionality of this model, though it does last for up to two hours.

**Macworld's buying advice** The PD6H is a simple camera designed for the budget conscious – and Sharp says it will soon cut “a significant chunk” off the current price. It is, though, limited by lack of features, such as DV-in.

specs

Price	£850
Manufacturer	Panasonic
Digital zoom	150x
Optical zoom	15x
LCD size	2.5 inches
Battery Life	65 mins
Interfaces	DV out; microphone; composite AV; composite AV; S-Video; edit-deck.
Stabilizer	Digital
Still media	Multimedia card
Number of CCDs	1
CCD type	½-inch
Lens	Panasonic (fixed)
Contact	Panasonic, 0990 357 357
URL	www.panasonic.co.uk

Price	£722
Manufacturer	Sharp
Digital zoom	200x
Optical zoom	10x
LCD size	3 inches
Battery Life	120 mins
Interfaces	DV out; S-Video; microphone; composite AV
Stabilizer	Digital
Still media	SmartMedia
Number of CCDs	1
CCD type	½-inch
Lens	Sharp (fixed)
Contact	Sharp, 0800 262 958
URL	www.sharp.co.uk

score

Ease of use	■■■■■■■■■
Image quality	■■■■■■■■■
Value for money	■■■■■■■■■
Star Rating	★★★★/6.2

Ease of use	■■■■■■■■■
Image quality	■■■■■■■■■
Value for money	■■■■■■■■■
Star Rating	★★★★/7.2

iMovie hides complex parts of the editing process, Final Cut gives you complete control of every detail. It has complex compositing and layering features, advanced media-management, and many other high-end features. If you want to make broadcast-quality movies, use FCP.

The ins and out of DV

Now all you need is a camera. The first thing to remember, is that not all FireWire DV camcorders have video input and output. Beer-bloated Brussels bureaucrats have decreed that video cameras with the ability to record and output from other video sources must be classified as VCRs. This means they incur an additional 5 per cent tax – not much, but enough for camera manufacturers to disable the video-input feature to keep prices down. This means that, if you have a camera with video-out only, you can get the movie onto your Mac, but it will then be stuck there. If you have a camera with DV-out only, once you get the movie onto your Mac it can be stuck there. Ideally, the edited movie should be recorded back to the camera's DV tape. Without DV-in, this is impossible. On many of the cameras, there is the possibility of reprogramming the camera to give it back its DV-in capability. A device called a DV Widget can re-enable these features on many popular cameras. Check out the DV widgets available from Datavision ([www.datavision.co.uk](http://www.datavision.co.uk)).

The kind of cameras found in high-street electrical stores, such as Dixons or Curries, will be stocked more on price than features. This means most of the models will be analogue, and therefore lack a FireWire connection. If they do have FireWire, it's likely to be a DV-out only model. The cameras may well be the cheapest in town, but be careful to check that they have the features you want.

**Which format?** The first thing to look for is the MiniDV- tape format. This tape is about the size of a DAT (digital audio tape) cartridge. It's the most popular format for consumer DV cameras. There are higher-end versions of DV tape, but there are few advantages. For instance, DVCAM and DVCPRO are high-end professional formats, but the compression is the same as MiniDV. Their high-end status is from having ID chips built-in.

We didn't test the non-digital consumer formats, because the difference in quality compared to MiniDV is huge. MiniDV gives much clearer and sharper pictures. Aim to get a MiniDV camera with DV in and out.

**aka FireWire** FireWire is an Apple invention, though Sony and others were involved at its inception. It's officially known as IEEE 1394: though Apple prefers FireWire, while Sony calls it iLink. So when you see a camera that calls its DV connection iLink, you can buy it knowing this is really FireWire.

**Zooming** Another feature you'll see

plastered all over DV camcorder packaging is digital zoom. If you see a camera with a 200x digital zoom don't be impressed. Digital zoom is similar to blowing-up an image on your computer screen, so that you can see the pixels it's made up of. It will make your images look awful, because you can't get extra information from enlarging original images digitally. Even if your camera does have a digital zoom, you're better off not using it too much.

Optical zoom is a much better indicator of quality. A good zoom lens will let you focus on things far away without losing image quality. This is a handy function to have, though sometimes it's better to simply move closer to your subject. One thing to bear in mind is that zooming while filming will almost always look amateurish. Unless you're going for a 1970s *Top of the Pops* look, use zoom to frame your shot before shooting – and use it sparingly.

**Stabilizer** Another important feature is the camera's image stabilizer. This helps reduce camera-shake – especially handy at weddings and parties where the booze is flowing. However, avoid using it for pan shots. If you're panning across a horizon, the image stabilizer will lock onto objects to steady the image. This is counter-productive, because the footage will be jerky. Turn the feature off for this kind of shot. If, however, you're trying to get a shot of a rare booted warbler with your zoom maxed-out, and your hands going numb, image stabilization will be a godsend.

**Viewfinder** Almost all of the cameras tested include an LCD viewfinder of some description. These are handy when what you want to shoot is out of view. Imagine you're in a crowd; you can hold the camera up and angle the LCD screen down so you can view from below. In bright sunlight, though, colour LCD screens become difficult or impossible to see. Using the eyepiece guarantees a good view, but restricts viewing angles. However, you'll get an image unsullied by sunlight only by viewing this way.

DV choices

After finding a camera with the right features, turn to size and usability. If you're already familiar with digital camcorders and are seeking a more professional model for commercial use, your choices are obvious. You'll need a shoulder-mounted model. Try turing up to a wedding as a professional with a handheld DV camcorder. You'll look like a relative. For commercial use at least, size does matter.

For consumer cameras, size is important, but here, smaller is better – at least judging from the host of diminutive cameras on

Price	£625
Manufacturer	JVC
Digital zoom	100x
Optical zoom	n/a
LCD size	2.5 inches
Battery Life	60 mins
Interfaces	DVin/out, composite AV; S-Video, microphone; headphone.
Stabilizer	Digital
Still media	n/a
Number of CCDs	1
CCD type	½-inch progressive scan
Lens	JVC (fixed)
Contact	JVC, 020 8208 7654 0500 246 246
URL	www.jvc.co.uk

Ease of use	■■■■■■■■■
Image quality	■■■■■■■■■
Value for money	■■■■■■■■■

Star Rating ★★★★★/8.0



the market. This is because you'll be lugging the thing around with you most of the time. Not having to lump camera bags around is definitely a good thing.

That said, one of our favourite consumer models was also one of the larger models. This was partly because of price, but also remember that the smaller the camera, the more fiddly and jerky filming can become.

Bigger cameras give easier access to the controls while filming, without you bashing the camera around.

Camera action

Whichever camera you choose, we guarantee that you'll find using iMovie fun. It'll also allow you to make movies that won't have your friends and relatives inventing chores and appointments just to avoid sitting through your production.

Whether you're gathering news for TV or gathering holiday memories, one of the cameras tested here will do the job for you.

JVC DVL 107

Unlike the other consumer-level cameras tested, the DVL107 isn't striving to be the smallest camera in the world. In fact, it's the largest of those included in this round-up, but this is not a bad thing. For one thing, it won't fall over when you put it down.

Its also comfortable to hold, the controls are straightforward and to-hand and both the LCD and the viewfinder are adjustable. This all helps to make using the camera simple and even the most unsteady-handed should be able to get even footage.

Image quality was on a par with the more expensive consumer models. The digital zoom is poor at the extremes of its range, something inevitable with this technology.

Still-images can be captured to the MiniDV tape, though there is no removable media, so the quality will be limited to DV resolution. However, if you want good still-images you should use a dedicated still camera.

**Macworld's buying advice** At this price, you really can't argue. Although not as fully featured as some of the other models, if you only want to play around with home-movies, this camera will meet all your needs.





# PC passport

Travel freely between the Mac and Windows worlds with our cross-platform guide. By Adam Engst

**G**one are the dark days when Windows' forays into Mac territory seemed unstoppable. Apple has reclaimed its strongholds and attracted new populations, but the sheer prevalence of Windows-based PCs means you'll probably need to cross the border occasionally. An important client may require Windows files, or Dad, a longtime PC user, may not be able to open the email you send him. It could be that the software you need doesn't run on Macs, so you have to emulate a PC. And when emulation isn't enough and you must buy a PC, you can at least save money and desk space by sharing your Mac peripherals with the other system.

This guide gives you the essential tools and strategies to thrive in today's cross-platform world.



# Convert that file

The report is due tomorrow, and you need the text from Bob in the branch office. But when Bob, who has Windows, sends the report as an email attachment, you realize you're facing a long night. The file has a blank icon, double-clicking on it does nothing, and none of your programs recognize the format. When you send back the attachment, Bob says he can open and read it, so the problem isn't file corruption. How can you bridge this inability to communicate before your deadline hits?

**Not your type** One communication gap between platforms is caused by differences in how the operating systems identify file types and originating applications. Windows files require three- or four-character extensions at the end of file names to provide this information – for example, .doc for Microsoft Word documents. (For more information, see "File typecasting.")

All programs involved in transferring files between Macs and PCs rely on an extension-mapping database that says, for instance, any Mac file of type TEXT should have a .txt extension in Windows. You can simplify the process by adding the appropriate file-name extensions yourself (see the File Exchange control panel for a list).

If you need to share a large number of files that lack extensions and your transfer utility won't add them, check out Miramar Systems' \$20 AKA utility. Despite its clumsy port from Windows, AKA batch-processes entire folders full of files at once, adding extensions and replacing any characters that are illegal in Windows names (such as question marks and commas).

**Cross-platform applications** The simplest approach to bridging the language gap between Macs and Windows is to stick with major applications from companies that produce cross-platform versions of their software. Microsoft, Adobe, Quark, and Macromedia all use the same file formats for the Mac and Windows versions of most of their products.

These cross-platform applications handle files from the other platform best when the versions are roughly comparable. For example, try to open an Adobe PageMaker 5 for Windows file in PageMaker 6 for Mac, and you're out of luck. But you can usually open a Microsoft Word 98 for Windows file in Word 98 for Mac. Fonts may cause cross-

platform problems, but that's a separate issue.

**Employ a translator** When you can't use a cross-platform application, rely instead on translators. Most productivity applications, including AppleWorks and Nisus Writer, can both save and open documents in a variety of common formats. If you want to send your accountant an AppleWorks spreadsheet, use Save As within AppleWorks and choose a format your accountant can likely open, such as Microsoft Excel 4.0. Just beware that this lowest-common-denominator approach may not retain some version-specific features of your documents.

If you need to convert files for Windows users frequently, or if the translators built into your application don't cut the mustard, get a copy of DataViz's MacLinkPlus Deluxe 12 (£112; [www.dataviz.com](http://www.dataviz.com); CU, 020 8358 5845), which offers bidirectional translation of a wide variety of file formats. The Document Converter feature is ideal when you need to convert a batch of files simultaneously. It often does a better job than built-in translators with some specialized features, such as styles in word processing documents.

## Tip

Windows can't identify files without three-character extensions. Add extensions manually or use AKA, from Miramar Systems.

**Generic formats** Sometimes full cross-platform operability isn't a requirement. For example, when you're designing a company's business cards, your clients don't need to open your Adobe Illustrator or Macromedia Freehand files and manipulate them – they want only to see what the design looks like. In cases such as this, try formats most applications can view regardless of platform.

Everyone with a Web browser can view GIF and JPEG images, and most programs can save in or export these formats. When you need higher resolutions than GIFs and JPEGs can provide, Adobe Acrobat's Portable Document Format (PDF) is a good choice. A PDF file preserves the typefaces, graphics, and layout of the original file. Anyone on a Mac or a PC can view or print out (but not modify) PDF files with the free Acrobat Reader ([www.adobe.co.uk](http://www.adobe.co.uk)).

There are several ways to create PDF files. Some applications have built-in PDF export. Adobe also provides a Web-based PDF converter (<http://cpdf1.adobe.com>) that allows three free conversions. James Walker's \$20 shareware PrintToPDF printer driver ([www.jwwalker.com/pages/pdf.html](http://www.jwwalker.com/pages/pdf.html)) handles less-complex documents. For the full range of creation and modification features, you'll need the \$249 Adobe Acrobat package (£165; [www.adobe.co.uk](http://www.adobe.co.uk); 020 8606 4001). The package includes Distiller, Capture, and Catalog, in addition to Acrobat.

# Transfer that file

After converting files, the next task is to get them across the platform border. There are a variety of ways to move files around the office and the world, and which one makes the most sense depends on your individual situation.

Follow our examples and see which option best matches your needs.

**Use the Internet** You're a freelance writer, churning out articles for any magazine that will pay. You could send your work on disks, but that's slow, and overnight delivery gets expensive. The best approach for individuals working on their own is to transfer files via the Internet, mostly through email. FTP is another inexpensive solution for transferring files over the Internet, but many people don't know how to use it effectively, and storing confidential files on a public FTP server can be problematic.

Although you may find sending and receiving email attachments a frustrating experience, you can eliminate most cross-platform problems by following these rules:

- Make sure that file names sport the appropriate Windows extensions.

- Encode attachments using the AppleDouble (also called MIME) format. If that doesn't work, switch to Base64, then to UUencode. If the recipient uses America Online, stick with Base64. Attachment format settings are in your email program's outgoing-message windows or Preferences menu.

- When attachments from Windows users get mangled in transmission, ask the sender to try the MIME format, then UUencode.

- To send multiple files, compress them in a single archive. If you create Stuffit archives, the Macintosh standard, make sure your recipient has the free Aladdin Expander for Windows ([www.aladdinsys.com](http://www.aladdinsys.com)). You can also create Zip archives, the standard in Windows, using Aladdin's \$20 shareware DropZip or Tom Brown's \$15 shareware Ziplt ([www.maczipit.com](http://www.maczipit.com)).

- Download a free copy of Aladdin's Stuffit Expander to decode whatever compression or encoding format you receive. If you find even Stuffit Expander failing you on a regular basis, DataViz's MacLink Plus may be a better option.

**Stick with disks** The Internet might be everywhere, but sometimes only disks will do. For example, your desktop publishing files may be so large that they'd take hours to transmit to a client for approval or to a service bureau for printing, so sending them on disk is your best option. Here, too, cross-platform problems can crop up.

Macintosh users can read and write data on disks formatted for Windows, so sending Mac files on Windows-formatted Zip and Jaz disks, SyQuest cartridges, and Orb disks is relatively trouble-free. However, recordable CDs can cause problems, even when you set them up in the cross-platform ISO 9660 format. Use file names longer than the creaky DOS standard of eight letters, then a dot, then three letters, and the CD-burning process may truncate those names and end up breaking links between files on the CD-R. If you've got the popular Toast app from Adaptec (\$89, [www.adaptec.com](http://www.adaptec.com), 800/442-7274), you can preserve your file names by choosing Allow Macintosh Names from the Settings menu.

A few people are turning to DVD-RAM disks for the heftiest jobs. Just make sure to format DVD-RAM disks using the cross-platform Universal Disk Format to reduce compatibility issues.

When PC users need to read and write to your Macintosh-formatted disks, tell them about MacDrive 2000, from Mediafour, or MacOpener 2000, from DataViz. Both cost \$60, handle almost any type of Macintosh disk, and map Macintosh file types and creators to Windows file-name extensions on-the-fly, so the extensions disappear when you view the disks on a Mac again. MacDrive gets our nod because it supports copying Mac disks, extracting Mac files from MacBinary and BinHex encoded files, creating MacBinary files, and viewing the contents of Mac files' resource forks.

**Lone Mac in a PC network** You land a great job with a Windows-based company that agrees to let you use your beloved Mac. Or maybe your company converts from Mac to Windows, with only your Mac left. You must share files with your Windows co-workers, and in most modern workplaces that means an ethernet network. The trick is creating a setup that lets your Mac talk with all those PCs.

Two options make the most sense when you have one or two Macs hiding in a Windows-based network: the Services for Macintosh functions that come with

## Tip

To avoid cross-platform email problems, encode attachments using the AppleDouble format or Base64.

Microsoft's Windows NT 4.0 Server (£744) and Windows 2000 Server (£812), and Dave 2.5.1 (£79; [www.thursby.com](http://www.thursby.com); Gomark, 020 7731 7930), from Thursby Software Systems.

Choosing between these options is simple. If you already have Windows NT 4.0 Server or Windows 2000 Server running on your network, you can easily activate Services for Macintosh, which provides AppleShare services over AppleTalk or, for better performance, TCP/IP.

But when that's not feasible, Dave is your best bet. This stealth solution lets a Mac masquerade as a PC network client, and it doesn't require putting more software on the server, so it's less likely to alienate potentially Mac-hostile network administrators.

Once you've installed Dave on a Mac (you don't need to make changes on any PC), the Macintosh can see shared resources on PCs, including folders and printers. You can create desktop printers for PC PostScript printers, make aliases to shared PC folders, and generally work with PC

## Dave in the Chooser

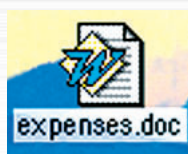
When running Dave, you access PC-shared resources through the Dave Client in the Chooser; this option isn't available in the Network Browser.

▶ page 80

## File typecasting

To gain a better understanding of why you may run into file-conversion problems across platforms, take a look at the different ways the Mac and Windows operating systems identify file types and originating applications.

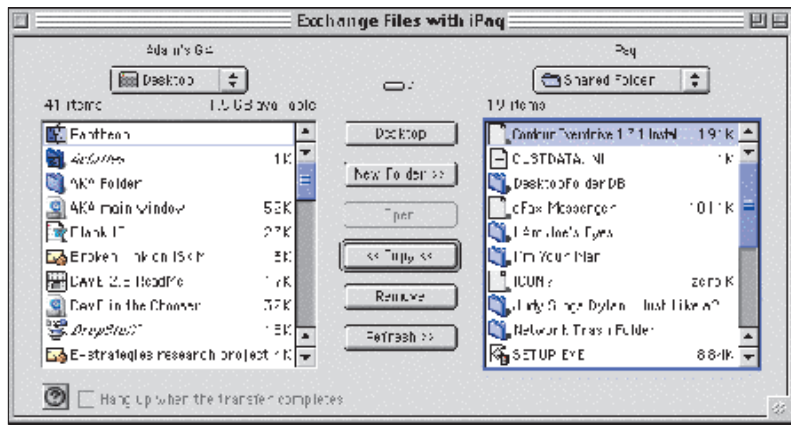
Windows files need three-letter extensions at the end of file names to identify both the file type and the originating application. The .doc extension tells the Windows OS that the file is a Microsoft Word document.



The Mac interface buries the file type and creator information in the file as two four-letter codes. The type code identifies the expenses file as TEXT. The creator code links it to an application – in this case, Microsoft Word.







#### Timbuktu Pro file-transfer window

Timbuktu Pro's interface for transferring files between Macs and PCs is reminiscent of the clunky Font/DA Mover in the old Mac OS, but it lets you drag and drop into the window's two panes.

resources as though a Mac were hosting them. In addition, you can use the Dave Sharing control panel to give PC users access to shared folders and printers on your Mac. The main negatives are that you must access PC resources through the Dave client in the Chooser rather than through the Network Browser (see the screen shot "Dave in the Chooser"), and the PC terminology and protocols can prove confusing. Both Dave and Windows 2000 allow you to copy Macintosh files with resource forks, such as applications and fonts, to a PC and back again with no data loss.

**Lone PC in a Mac network** You may find yourself in the opposite situation, where you need to integrate a PC in an otherwise all-Mac office. Both Dave and Windows 2000 Server enable file sharing (as an internal FTP server would), but you don't have to outfit multiple Macs with Dave or install and administer a dedicated Windows 2000 server for such minimal needs. Instead, look to the £69 TSSTalk 1.0, from Thursby Software Systems (Gomark, 020 7731 7930); the £207 PC MacLAN 7.2 or 8.0, from Miramar Systems ([www.miramarsys.com](http://www.miramarsys.com); CU, 020 8358 5845); the £699 AppleShare IP 6.3.1, available from

Apple ([www.apple.com/uk](http://www.apple.com/uk); 0800 783 4846); or the £159 Timbuktu Pro 2000, from Netopia ([www.netopia.co.uk](http://www.netopia.co.uk); CU, 020 8358 5845).

TSSTalk (previously known as COPSTalk) offers the most basic way to share files and printers with Macs, since it lets a Windows machine use Network Neighborhood to connect to your existing AppleShare servers and printers. Moreover, it doesn't allow Macs to access the PC running TSSTalk. To avoid sluggish behaviour when you're browsing the AppleTalk zone, map shared folders to drive letters. Some caveats: at press time TSSTalk didn't work with Windows 2000, you can't use the Windows 95/98 version of TSSTalk with Symantec's Norton AntiVirus, and the program comes with a sparse extension-mapping database.

PC MacLAN 7.2 (Win 95/98) and 8.0 (Windows NT/2000) are basically Dave in reverse. Enabling a PC to act as an AppleTalk network client, they also include their own file and print server that allows networked Macs to access files on the PC and its printers. PC MacLAN's directory listings are more readable than TSSTalk's and AppleShare IP's.

PC MacLAN's file server essentially ignores the built-in Windows interfaces for creating users and sharing folders. Its interface fits better into the mindset of most Macintosh users. Since its file server is a full-fledged AppleTalk-based AppleShare server, shared folders appear in the Mac's Network Browser. Thanks to its file and print server, PC MacLAN has significantly more power than both TSSTalk versions. The UK version is, however, over-priced – it costs £207 (ex. VAT) compared to just \$199 in the US.

AppleShare IP starts at around £699 (but just \$500 in the US), so it's probably overkill if all you need is file sharing with a lone PC on a Mac network. But when you already have AppleShare IP or need enough of its full set of services (a print server and servers for FTP, the Web, and Internet email) to warrant the purchase, you'll find setting up file access for a Windows PC simple – just check the Enable Windows File Sharing (SMB) check box in the Windows tab when configuring file sharing, and make sure you have a shared folder and a user who can access that folder.

Netopia's Timbuktu Pro (which includes Timbuktu Pro 5.2 for the Mac and Timbuktu Pro 2000 for Windows) is primarily known as remote-control software – it lets you view and operate the PC in a window on your Mac – but it also sports speedy file-transfer capabilities. On the minus side, Timbuktu Pro doesn't offer printer sharing of any sort. Thanks to a clumsy interface for transferring files

(see above), Timbuktu Pro makes sense only if you need remote control and don't care much about printer sharing.

With the exception of PC MacLAN's file server, when you transfer files from a Mac to a PC, all four of these products copy only the Mac files' data fork, which stores the guts of most documents. That's seldom an issue with documents, but the process can actually destroy applications, along with other files that rely on their resource forks, such as fonts.

# Run Windows on your Mac

Sometimes you run into a cross-platform problem when you need to access capabilities that are unique to one platform or the other. For example, imagine you're in the construction business and you need to run a particular Windows-only program for making project estimates. Everything else in your office is Mac-based – how can you add this single application to your workflow inexpensively?

You can choose one of several paths. Compatibility cards, which graft most of the guts of a PC into your Mac, were once an option, but rumour has it that the last remaining vendor, OrangeMicro, has recently discontinued them. Software emulators, a less powerful alternative, use your Mac's memory and hard drive to simulate Windows so you can run Windows applications. Or you can buy a cheap PC, stuff it in a closet, and use remote-control software to direct it from your Mac.

**Fake it good** Evaluating PC emulation programs is tricky, since they're most likely used with custom software that serves a specific task, and custom programs often act flaky even on real PCs. That said, here are our overall impressions of and insights into which programs work most smoothly on the Mac. (See "Testing the boundaries," for performance numbers.)

We give the nod to Connectix's Virtual PC 3.0 (£159 with Windows 98 and a whopping £225 with Windows 2000; [www.connectix.com](http://www.connectix.com); CU, 020 8358 5845), which offers the tightest integration with Mac OS. You can share Macintosh folders with the PC environment by dragging them to a Folders button on the Virtual PC window border, and in a unique and elegant twist, you can also copy files back and forth with a simple drag-and-drop move. Copying and pasting works transparently between Windows and Mac OS as well. Notable in the latest release of Virtual PC is support for a number of USB devices within Windows 98. And in the most recent minor update (3.0.3), Connectix added support for the Velocity Engine in the G4 chip, which might improve performance in certain situations.

Another software emulator, FWB's £89 SoftWindows 98 ([www.fwb.com](http://www.fwb.com); 01628 421 777), offers most of the same folder-sharing and copy-and-paste Macintosh integration features. You can also easily copy images from the Windows environment to the Mac. In our testing, SoftWindows continually encouraged switching the monitor to 256 colours and proved clumsier to configure and use.

For serious use of any software emulator, we recommend a fast G3- or G4-based Mac with at least 96MB of physical RAM and 600MB of free hard-disk space.

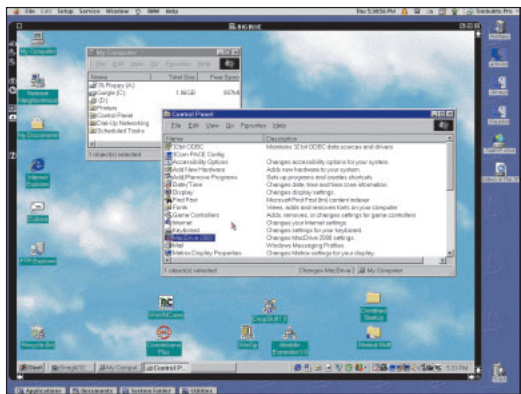
**Puppet PCs** If your Mac lacks the oomph to emulate

Windows at a reasonable speed, or your custom program simply doesn't run well in an emulator, you can couple an inexpensive PC with remote-control software, such as Netopia's Timbuktu Pro or VNC, from AT&T Research Laboratories Cambridge. This combination lets you view the PC in a window on your Macintosh (see "Control Windows from afar"). Even if you don't share hardware between the machines, you'll still need a separate PC monitor, keyboard, and mouse – just in case. For example, if your PC runs into trouble, you might need to run ScanDisk on it before the remote-control software can take over. However, you can use cheap devices and stash the PC itself out of the way.

Netopia constantly improves Timbuktu Pro, for years the premier cross-platform remote-control software. You can transfer files back and forth, move the contents of the Clipboard between computers, and save the remote desktop as a PICT file or actions on the remote desktop as a QuickTime movie.

On the downside, the jerky remote-control performance can make even a hopped-up PC feel slightly sluggish. Display quirks aren't uncommon, though few make the PC screen unreadable. The free VNC fails to match up to Timbuktu Pro in many ways. It's more complex to configure, offers just remote-control and observation features (no file-transfer, chat, intercom, or screen-capture capabilities), and the Macintosh version seems like a perennial beta release. However, it's usable and free.

For another take on running Windows applications from afar, check out the Java-based Personable.com ([www.personable.com](http://www.personable.com)). Pay a monthly fee, and you can access a virtual Windows 2000 desktop within Internet Explorer 4.0 and higher. The available programs, though, are limited – but it's still cheaper than an emulator. MW



**Control Windows from afar**  
When you need a PC but don't want it in your main work area, you can stash it away and use remote-control software to view the PC in a window on your Macintosh.

## Testing the boundaries

Best results in test.

	Install Office 2000	Wordpad scroll	File transfer	File Coy
Connectix Virtual PC 3.0.3a with Windows 2000	631	32	322	93
Connectix Virtual PC 3.0.3a with Windows 98	293	50	356	95
SoftWindows 98 5.1	310	36	315	81
Windows PC with Windows 2000	241	31	211	101
Windows PC with Windows 98	241	23	312	212

Reference systems in italics. All results are in seconds.

We installed Windows 98 Second Edition and Windows 2000 on the test machines. The PC was a 366MHz Celeron with 64MB of RAM. †

The emulators tested was a Power Macintosh G3/400 with 128MB of RAM and Mac OS 9 installed. Macworld Lab testing supervised by Jeffy Milstead.



# Inside Mac OS X

It's going to take some solid practice getting used to the new ways of Mac OS X – out now as a public beta, and due in finished form “early next year”. *Macworld's* monthly series is here to help.

## Changing directories

One of the biggest changes in Mac OS X is its Unix-derived directory structure. In the current Mac OS, unless you're in the System Folder, you can set-up folders and sub-folders pretty much as you see fit. Mac OS X, in contrast, depends on a directory structure that separates system-wide resources from those that apply to individual users.

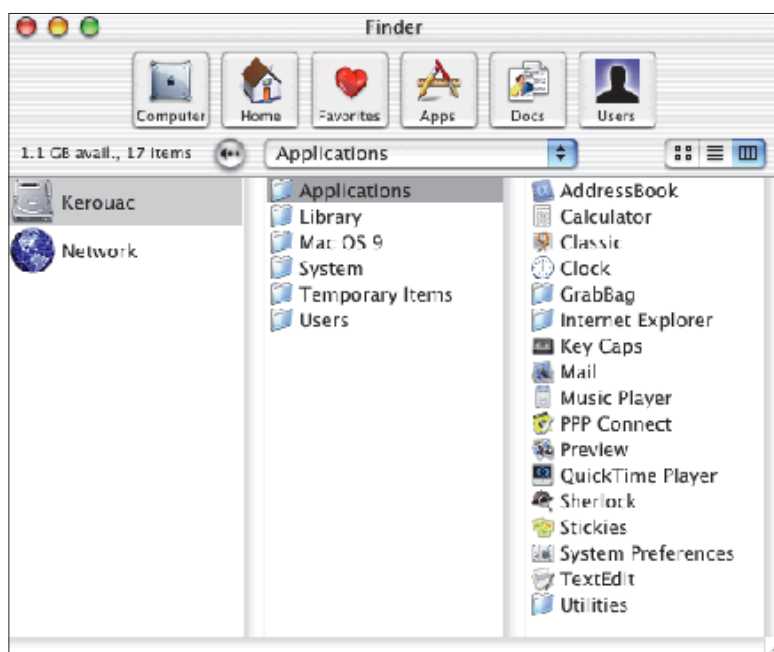
This directory structure imposes much more conformity than does the current Mac OS. For example, all applications are supposed to reside in the Applications folder. Apple's preliminary documentation states that the folder is protected, and that you cannot move an application out of it without making an alias or copy.

It turns out that you can move applications to other folders or the Desktop, but sometimes with unintended consequences. For example, if you move Help Viewer out of the Utilities subfolder within the Applications folder, you won't be able to view help screens, because OS X applications expect to find it in Utilities. But when adding new applications, you can configure the Applications folder with your own subfolders and aliases as you wish. Likewise, each user in the system can configure their own Home, Favorites, Documents and Desktop folders with aliases and/or nested folders. But the directory structure itself cannot be changed – it's inherent to the way Mac OS X operates.

Navigating the directories using the Finder, or Open or Save dialogue boxes, can be confusing at first. For example, there are numerous “Library” subdirectories: one in the Mac OS X root (“root,” identified by the “/” character, refers to the highest-level directory), one in the system directory, and one in each user directory.

You'll also notice multiple Fonts and Preferences folders. They may appear to be redundant, but they are not. The `/system/library/fonts` subdirectory includes system fonts, `/library/fonts/` includes fonts available to all users, and `/users/steve/library/fonts` includes fonts available to a user named “Steve”. Likewise, `/system/library/preferences` includes System Preferences, `/library/preferences` includes application preferences that apply to all users, and `/users/steve/library/preferences` includes Steve's personal preferences. Apple is encouraging developers to set up their Mac OS X applications so that each user can store an independent set of preferences.

Experienced Macintosh users may also find




themselves confused by the new role of the desktop.

Mac OS 9 presents a system-wide desktop that's essentially at the root of the system. In Mac OS X, each user has a personal desktop, and within the directory structure, it's about as far from the root as you can get: `/users/steve/library/desktop` (this is the path you follow in the Finder to see files you've placed on the desktop).

The new Finder, as well as the Go menu and Open and Save dialogues, attempt to simplify the file system by providing shortcuts to the most frequently accessed locations: Computer (the root), Home (the user's personal folder), Apps, Docs, Favorites and Users. As you can see from the table on page 84, these shortcuts take you to many different levels of the system.

**Stephen Beale**

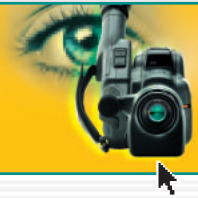
 **MORE MACWORLD FEATURES ON MAC OS X:**  
*Macworld*, November 2000: Beta Survival Guide  
*Macworld*, December 2000: New menus  
Next month: Mac OS X = Unix!

Directory table on page 84

## OS X: Higher-level directories on the left, with each subsidiary to the right

Computer	Network	(Mounted servers)	
	OS 9 (/9)	Apple Extras	
		Applications	
		Assistants	
		Desktop Folder	
		Internet	
		QuickTime Folder	
		System Folder	
		Temporary Items	
		Utilities	
	OS X (/)	Applications (/applications/...)	AddressBook, Calculator, Classic, Clock, Internet Explorer, Key Caps, Mail, Music Player, PPP Connect, Preview, QuickTime Player, Sherlock, Stickies, System Preferences, TextEdit, other apps and folders as configured by user.
			Grab Bag (/applications/grabbag...)
			AppleScript, Battery Monitor, Chess, CPU Monitor, HTMLEdit, ImageCapture, NetProbe, PDFCompositor, QuickTime, QuickTime movies, Sketch.
		Utilities (/applications/utilities...)	Aladdin (Stuff-It Expander), Apple System Profiler, Assistant, Console, Disk Copy, Disk Utility, Grab, Help Viewer, Installer, Keychain Access, Multiple Users, NetInfoManager, PrintCenter, ProcessViewer, Script Editor, Software Update, Terminal
		Library (/library/...)	ApplicationSupport, ColorSync, Documentation, Fonts, Internet Plug-Ins, Preferences, Receipts, Scripting Additions, WebServer
		Mac OS 9	Startup Disk (Mac OS 9 utility that lets you restart under Mac OS X Mac OS X System Preferences includes a panel that lets you restart under Mac OS 9).
		System (/system/...)	Library (/system/library/...)
			Apache, Appearance, Assistants, Authenticators, Caches, CFMSupport, Classic, ColorPickers, Colors, ColorSync, Components, Core Services, Displays, Extensions, Filesystems, Find, Fonts, Frameworks, Internet Plug-Ins, Java, Keyboards, OpenSSL, Perl, Preferences, Printers, PrivateFrameworks, QuickTime, QuickTimeJava, Rulebooks, Scripting Additions, Security, Services, Sounds, Speech, Startup Items, SystemConfiguration, SystemResources, Tcl
		Users (/users/...)	Steve's Home (/users/steve/...)
			Documentation, Documents, Library, MailAccounts, Mailboxes, Public (see below for detail)
			Jon's Home (/users/jon/...)
			Documentation, Documents, Library, MailAccounts, Mailboxes, Public
			Avie's Home (/users/avie/...)
			Documentation, Documents, Library, MailAccounts, Mailboxes, Public
			Public (/users/public/...)
			(Items accessible to all users.)





# iMovie moments

Make your iMovies work in any format. By Jim Heid

You've had a long year: the 16-hour labour; the invigorating midnight feeds; that first word – which you're sure was "daddy"; and the first birthday party – where you learned that babies don't know the meaning of sharing. Now you've reached the moment that really matters – dishing out the painstakingly edited iMovie footage of your parental odyssey to your kith and kin, just in time for Christmas.

Yet during the past year, you've learned to be cautious. Have you compressed your video enough that the Orkneys crowd will be able to view your Web-based work over their 56K modem connections? Will the CD-ROM you've burned for Aunt Peggy play on her PC? And how likely is it that an oft-used VHS tape will survive repeated plays in Cousin Tricia's ancient VCR?

Relax. You've got enough on your mind as it is. We'll show you how best to transfer your iMovie to the medium of your choice – the Web, a CD-ROM, or videotape – in steps easy to absorb, even after months of interrupted sleep.

## The Web you weave

When it comes to sharing your iMovies with family and friends, the Web provides the greatest exposure for your video vision. After all, it's a cinch to send your Web page's address using e-mail, plus you'll save a bundle on postage, VHS tapes, and CD-ROM discs. Unfortunately, all your efforts will remain unwatched if you don't address two issues – storage and bandwidth.

**The problems** iMovie creates movies in the QuickTime format, and uncompressed movies are gargantuan – a full-screen QuickTime movie – that's 720-x-480-pixel resolution – at 30 frames per second (fps) requires around 30MB of hard-disk space for each second of video. It would be difficult to post a five-minute movie at this resolution – and no Web connection would be fast enough to play it. To create a Web-friendly iMovie, you must reduce the movie's file size and make it viewable over a dial-up connection. Doing so isn't difficult, but you'll need to take some care while producing the movie, and look beyond iMovie's default Export settings.

**Shoot for the Web** If you know the movie is going straight to the Web, avoid unnecessary



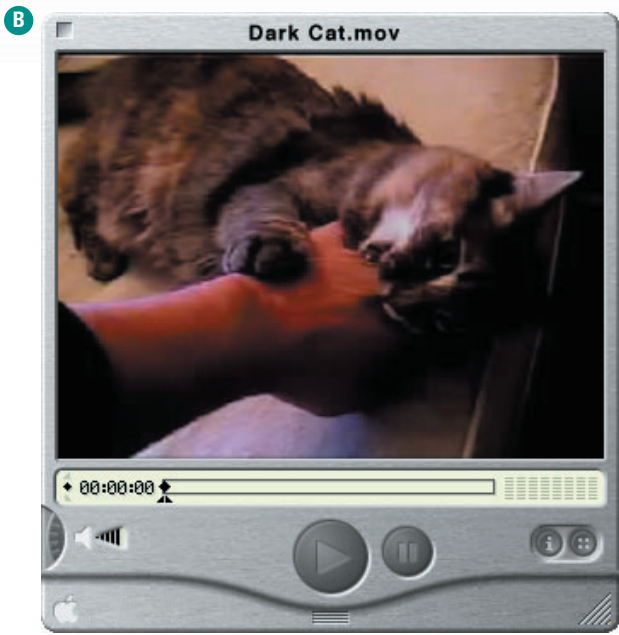
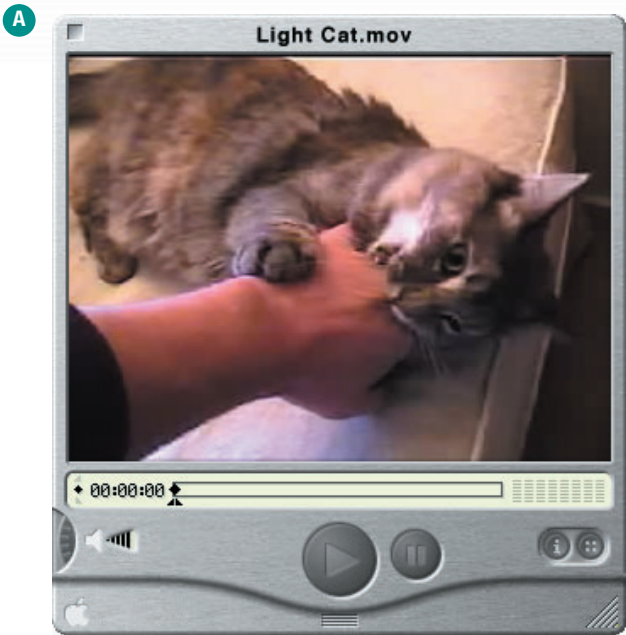
motion in your video – pans or rapidly moving objects, for example – and use a tripod when possible. Most video compressors don't handle motion well, causing artifacts to appear in areas where the camera or subject jinks from place to place.

Next, keep your shots simple. Many video compressors work by describing areas of a scene rather than the state of each pixel. For example, it takes far fewer bytes to relay that "the top half of the screen is white for the next 60 frames" than to detail the colour of each pixel in every frame of the video. You'll gain greater savings from your compressor – and your Web videos will look better – if you shoot against a plain, unchanging background. When shooting on the seashore, for example, choose a background of beach, sky, and distant water, instead of the rolling surf.

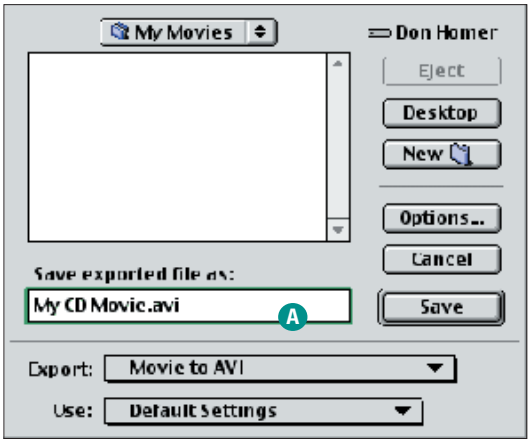
# Cross-platform concerns

Apple has taken great care to make QuickTime compatible with both Mac OS and Windows. Despite Apple's efforts, differences that will affect your movies remain. When preparing your iMovies for the PC, keep these tips in mind:

**1 Lighten up** Due to differing display settings, movies that look great on a Mac (A) are dark when played on a Windows machine (B). iMovie doesn't allow you to adjust for monitor variations, but you can make your iMovie look better on a Windows PC by clicking on iMovie 2's Effects button, selecting the Brightness/ Contrast option, and using the Brightness slider to make your iMovie lighter. Regrettably, there's no perfect compromise – the movie will be either a bit too bright for a Mac or a little too dark for a PC.



**2 When in Rome** We understand that QuickTime is one of the finest video formats around, but not every Windows user has a copy of QuickTime on his or her hard drive. While you can insist that your Windows pals download and install a copy of QuickTime ([www.apple.com/quicktime](http://www.apple.com/quicktime)) in order to view your CD-ROM-based iMovies, it may be easier to simply include both QuickTime and AVI – Windows' Audio Visual Interleave format for video – versions of your work on the CD. To create an AVI version of your movie, open the movie in QuickTime Pro, select Export from the File menu, and choose the Movie To AVI option (A).



**3 PC compatibility** Insert a Mac-formatted CD-ROM disc into a PC's CD-ROM drive, and the PC will do little more than shrug its virtual shoulders and refuse to mount the disc. For your disc to be recognized by a Windows machine, you must format the CD-ROM as an ISO 9660 disc. The OEM version of Adaptec's Toast 4 ([www.adaptec.com](http://www.adaptec.com)) – the CD-R-creation application that ships with nearly every current CD-R writer – allows you to create only Mac-formatted discs. To create PC-compatible discs, you must pay £67 for Toast 4 Deluxe.

Format	
Mac Volume	⌘1
Files & Folders	⌘2
✓ ISO 9660	⌘3
Mac/ISO Hybrid	⌘4
Audio CD	⌘5
CD-i	
Video CD	
Enhanced Music CD	
Disc Copy	
Disc Image	
Multitrack CD-ROM XA	
Audio Tracks	⌘A

**Edit for the Web** Remember that your files will be smaller if you cut extraneous material. iMovie titles, for example, usually look washed out and unfocused on the Web, so cut them from your video and post the information as text on your Web page instead.

Also, avoid transitions in which the background shifts dramatically – fades and dissolves, for example. After your file is compressed, you won't see a smooth transition from one scene to another. Whenever possible, use quick cuts rather than fades and dissolves.

**Export for the Web** When you select the Export Movie command from iMovie's File menu and choose the Export To QuickTime option, you'll spy the Web Movie Small option in the Format pull-down menu. This setting will produce Web-friendly iMovies. But you can also create a Web movie that takes up less storage space and begins playing before it's completely downloaded by selecting the Expert option and changing the settings in the Expert QuickTime Settings window. The first thing to do is change your codec (compressor-decompressor). In the original iMovie, the default codec for the Web Movie Small option was the Sorenson Video codec. For iMovie 2, Apple chose the H.263 codec because it compresses more quickly than the Sorenson Video codec. But Apple had it right the first time. Although the Sorenson Video codec takes longer and demands more processing power from the computers that view your movie, it produces better-looking video than H.263 – particularly when you've created a movie for fast-Internet connections.

Next, for greater storage-space savings, click on the Audio Settings button and select the Mono option – doing so cuts the size of the audio track in half and will usually suffice.

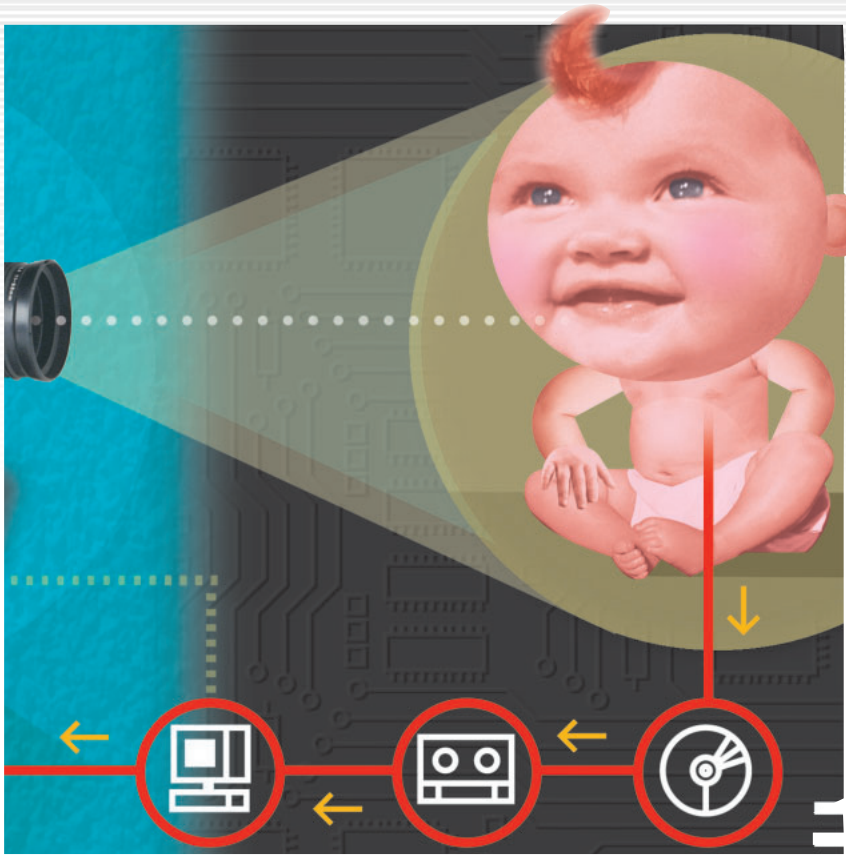
Finally, click on the Prepare For Internet option in iMovie 2's QuickTime Expert Settings window and select Standard Web Server. This causes your movie to begin as soon as QuickTime feels it has enough data to play the movie from beginning to end without interruption.

**Final touches** If you intend to make your iMovie viewable by those accessing the Web with a 56K modem, you should make additional changes.

Reducing the frame size and fps rate makes for a slimmer movie. Setting an appropriate data rate – around 5Kbps (kilobits per second) for a 56K modem – helps ensure that your movie won't skip.

Spacing keyframes, the reference frames that detail the state of each pixel in a frame, far apart also reduces file size. Inserting a keyframe every second will help ensure smooth video with the Cinepak codec – a predecessor to Sorenson Video – but other codecs, such as Sorenson Video, perform better when a keyframe occurs only every ten seconds or so. To read our recommendations for a movie that will be viewed over a 56K modem connection, see "A smaller Web movie."

**Beyond exporting** Now that your iMovie is prepared for Web viewing, where on the Web



do you put it? Nearly every ISP (Internet Service Provider) will provide you with a modicum of storage space (usually between 2MB and 10MB) for a personal Web page. You can use an editing program to create and upload a Web page that contains your iMovie.

But there's an easier way: Apple's iTools. Apple provides 20MB of storage space with each free Mac.com account, along with tools that make it easy to upload your iMovie. If you need additional storage, you can purchase 100MB, 200MB, or 400MB of space for £66, £123, or £266 a year, respectively. Just go to [www.apple.com/uk/itools](http://www.apple.com/uk/itools) and click on the iTools tab to sign up for a Mac.com account, mount and open your iDisk – a virtual hard disk – and drag the iMovies you want to display to the Movies folder. Then click on the Create iMovie button, select a background, and click on the Edit Page button. Click on the Choose button to select one of the movies in your iDisk's Movies folder, and finally, click on the Apply button to place the movie on the page.

## A discful of delight

A Web page offers wonderful exposure, but let's face it – it's not the kind of thing you can wrap up in colourful paper and send to Grandma for her 100th birthday. For more-tangible and better-looking results, burn your iMovie onto a CD-ROM.

**The problems** Find out what kind of computer and CD-ROM player your disc will be played on. Aunt Peggy's PC won't be able to read your Mac-formatted CD-ROM (see the sidebar "Cross-platform concerns").





## A smaller CD-ROM movie

	iMOVIE 2'S CD-ROM MOVIE MEDIUM DEFAULT SETTINGS	RECOMMENDED SETTINGS
Video codec	H.263	Sorenson Video
Resolution (pixels)	320-x-240	320-x-240
Frames per second	15	15
Keyframes	N/A *	75
Data rate (Kbps)	N/A *	100
Audio codec	IMA 4:1	IMA 4:1
Bit rate	16	16
Resolution	22.05KHz	22.05KHz
Channels	Stereo	Stereo or Mono
Prepare For Internet option	Off	Off

\* N/A = not applicable.

And the Export settings you've used may produce a disc that plays just fine on a 12x player, but not on Uncle Fred's 1x player. If you're burning a disc for a slower CD-ROM player, consider dropping the data rate, from 200 Kbps to 100 Kbps, for example, and resolution, from 320-x-250 pixels to 240-x-180 pixels.

**Shoot for CD-ROM** Your best work will be clearer on CD-ROM – and so will your worst, so pay attention to things such as lighting and audio when recording your footage. Use your camcorder's backlight control to make backlit images discernable, for example, and watch for odd shadows and reflections of you and your camcorder in windows and mirrors. For "talking head" shots, use a clip-on or wireless mic instead of the camcorder's microphone built-in.

**Export for CD-ROM** iMovie 2's CD-ROM Movie Medium export setting will produce an adequate CD-ROM movie in nearly all cases. We'd suggest just a couple of minor tweaks: First, change the compressor from the H.263 codec to Sorenson Video. You might also be tempted to change the audio codec to QDesign Music 2, but severe compression is unnecessary for the storage capacity of a CD-ROM disc.

When compressing any movie, however, it's a good idea to combine a demanding codec – one that requires a lot of processing power – with one that's less demanding. Both the Sorenson Video and QDesign codecs require a robust processor for decompression, and using the two in a single movie can drag down less-powerful computers. If you're creating movies for slower computers, consider combining Sorenson Video with IMA 4:1, or QDesign Music 2 with Cinepak.

If you're interested in reducing your movie's file size without compromising video quality, you can select a mono soundtrack. For our CD-ROM recommendations, see "A smaller CD-ROM movie (above)".

**Beyond exporting** To create a CD-ROM disc, you need a CD-R burner. Must you stump-up hundreds of pounds to buy your own? No. Some branches of printing services such as Kinko's can burn a CD-ROM for you at a cost of around £15 a disc.

## A smaller Web movie

	iMOVIE 2'S WEB MOVIE SMALL DEFAULT SETTINGS	RECOMMENDED SETTINGS
Video codec	H.263	Sorenson Video
Resolution (pixels)	240-x-180	192-x-144
Frames per second	12	7.5
Keyframes	N/A *	75
Data rate (Kbps)	N/A *	5
Audio codec	QDesign Music 2	QDesign Music 2
Bit rate	16	16
Resolution	22.05KHz	22.05KHz
Channels	Stereo	Mono
Prepare For Internet option	Off	On/Standard Web Server

\* N/A = not applicable.

## Direct to video

The fact that you're reading *Macworld* hints that you have a Mac of your own. Regrettably, not everyone has a computer, much less a Mac. Most people do have a VCR, however, and sending a tape, though old-fashioned, may be the best way to share your movies with your nearest and dearest.

While moving your iMovie to tape isn't difficult, the following tips will help you produce better-looking movies.

**The problems** A VHS tape has only so much life in it, and a tape that's recorded every episode of *Friends* is going to be stretched and worn. If your iMovie is important enough to dub to tape, it's important enough to place on a fresh tape.

**Prepare for tape** In all likelihood, your Mac doesn't bear an S-Video or Composite Video port, so you'll need to use your digital camcorder as a go-between when transferring your iMovie to a VCR. Use a fresh tape in your camcorder, too – not only because of tape wear, but also to prevent you from accidentally erasing your iMovie's original footage.

**Export to tape** String the necessary video and audio cables between your camcorder and VCR – for cleaner video, use S-Video if you have it – and then press the record button on your VCR and the play button on your camcorder. That's it.

If you're dubbing multiple VHS copies of your iMovie, record each copy from the camcorder to the VHS recorder rather than copying from one VHS recorder to another. VHS-to-VHS recording incurs a "generation loss" – meaning that quality degrades when copying between two analogue devices.

## The last word

Exporting your iMovies to various formats may not be as difficult as rocket science – or even shooting and editing the film in the first place – but everyone can use a little help from iMovie's Export settings.

Now the kid – bathed, and fed – is ready to be shown off to the grandparents. With the help of these tips and techniques – and a few elusive hours between feedings – your video should likewise be ready for viewing. **MW**



# Have a masked ball

Easy steps to removing backgrounds using Photoshop's Mask layer. By Genevieve Margherio

You've decided to escape the floods and fog of England for New Year and enjoy tequila sunrises on the beach, instead of turkey sandwiches on the sofa.

You want to make your own themed postcards before leaving, but have no suitably exotic photographs to scan in. Don't worry, because the Layer Mask feature in Adobe Photoshop (Adobe, 020 8606 4001) versions 4.x to 6.0 is your solution.

You can digitally cut yourselves out from any photo with greater accuracy than any pair of scissors affords. You can then paste yourselves against the most sumptuous of backgrounds, maybe taken from another

photo in your album or cut from a glossy magazine.

Understanding the Layer Mask feature is easy when you think about its name. Before painting a wall, you generally mask the skirting boards with tape or paper. Layer Mask similarly obscures some parts of an image, but instead of covering them, Layer Mask makes those parts invisible.

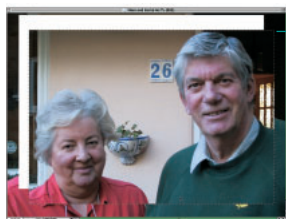
And because the image still exists behind the mask, you can easily restore portions of it if you cut out too much. Once you mask the background, your perfectly silhouetted subject fits onto your backdrop, and your work of art is ready for the post.

# 1

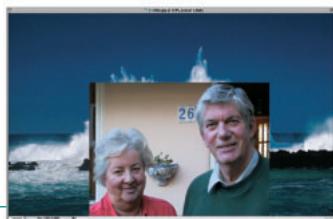
**Prepare to mask** Take your original image (A) and, before you begin surgery to remove the background from your photo, place it on a new layer above the background (B) you've scanned into in Photoshop.

■ In Photoshop, open both of your scanned images and select the Marquee tool from the Tools palette (or press M) and drag the mouse to create a box around the part of the photo you want to keep. In my example, I'm concentrating on cropping close around the heads and shoulders.

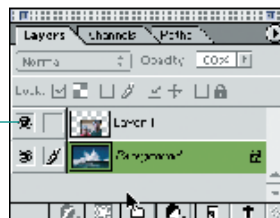
■ Switch to the Move tool (press V) and drag your selection (C) onto the seascape background image (D). Photoshop will automatically create a new layer (E) to accommodate the selection.



C



D



E

■ Make sure you've selected the new layer, and then use the Transform Tool (⌘-T) to resize your foreground layer, and then the Move tool to position the selection over the Waves. Now you're ready to mask the portion of the photo that you don't want to appear – in this case, everything except the outlines of the two figures.

A



B





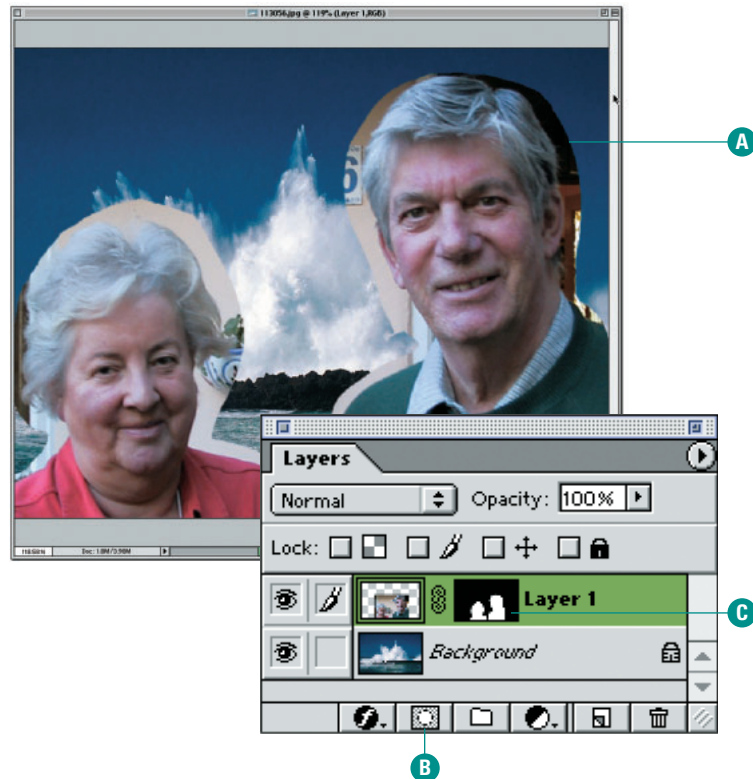
2

**Create a loose outline**

Before doing any intricate cutting, rough-in the outline you'll want around your subject.

- Choose the Lasso tool from the Tools palette (or press L), and click and drag to draw a loose outline around your subjects (A). Next, click on the Add Layer Mask button (B) at the bottom of the Layers palette.

- The part of the photo that wasn't selected disappears, and a black-&-white icon (C), indicating the presence of a layer mask, appears in the Layers palette, next to the icon of the photograph. Though it looks as if you've erased part of your photograph, nothing has actually been deleted – it's only hidden behind the mask.



3

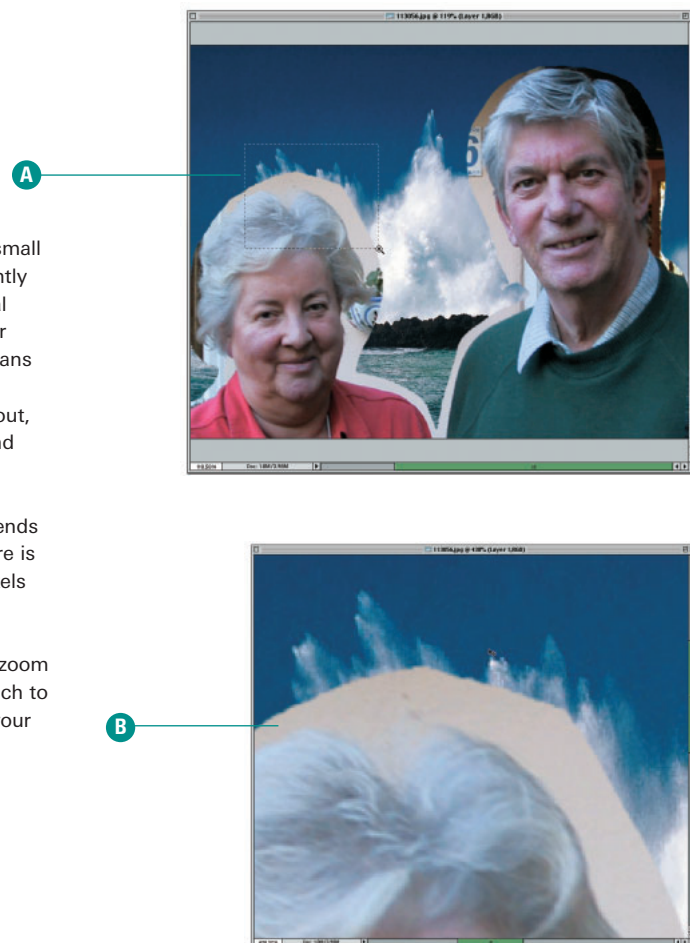
**Zoom in** To accurately trim a complicated shape out of a busy background, you'll need to pay attention. Focus on detail by looking very closely at your image before you cut.

- Select the Zoom tool (press Z) and drag a box around a small portion of the photograph to enlarge it (A). If you've sufficiently zoomed in on the photo, you should be able to see individual pixels. Experiment with the magnification that works best for you. It's possible to zoom-in up to 1,600 per cent, which means the cut-out will involve much more work, because you're concentrating on such small areas. The accuracy of the cut-out, though, will be spot-on. It all depends on how much time and effort you're willing to expend on the project.

- It should be easier now to determine where the subject ends and where the background begins (B). The magnification here is just under 440 per cent, which enables you to see which pixels make up the hair and which make up the beige wall behind.

- As you draw around your subject in the next step, you'll zoom in and out to gauge which bits of the photo to keep and which to mask. To zoom out, hold down the option key and click on your image with the Zoom tool.

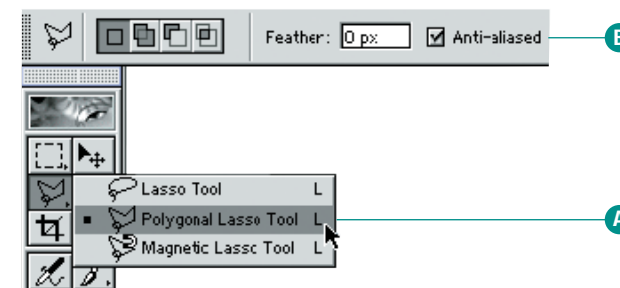
**TIP:** To zoom in, press ⌘-plus (+); to zoom out, ⌘-minus (-).



4

**Cut it out** The Layer Mask is in place, you've zoomed in, and it's time to pick up your Lasso tool to perfect the outline of your subject.

- Select the Polygon Lasso tool (A). You can also select it by hitting shift-L. In Photoshop 6, the Polygon Lasso tool options appear on the top horizontal tool bar (B). Select Anti-aliased, to cut with a smooth edge. The Polygon Lasso tool lets you define precise points in your outline by clicking on them. The regular Lasso tool relies on the less-exact movements of the mouse. However, unlike the Paths pen, you cannot create curves. To avoid crude, angular cut-outs, zoom-in at a high percentage and remove the remainder of the unwanted background in small sections.

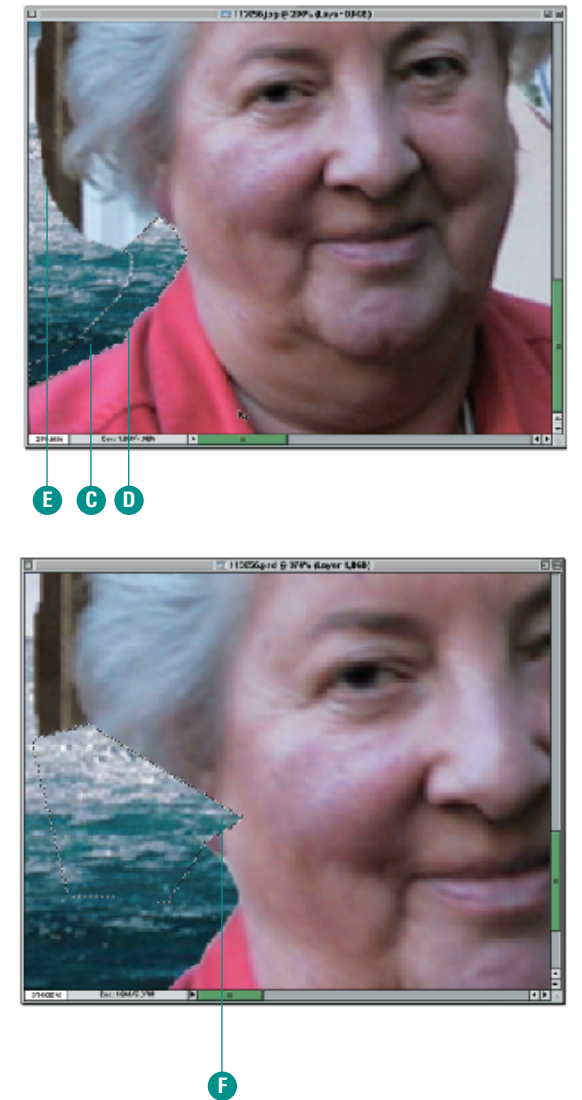


- Press D to set the Tool palette colour-swatches to default values. Then, using the Polygon Lasso tool, draw around the part of the photo you want to hide. Press the delete key to add your selection to the layer mask and make it invisible (C). It is only the outline of the figures (D) that needs to be traced with great accuracy. For the outer edge of the rough outline image (E) just make sure your polygonal lasso contains it all. It is better to work in small sections rather than attempting to lasso the entire image in one go.

- If you mask too much of your image (F), you can restore a portion to visibility by selecting it with the Polygon Lasso tool and then pressing option-delete.

- If your new outline is sharply contrasted against the background image – as it is here, against the dark blue sky – soften the edges using the eraser tool. The cut-out image to the right is 1.2MB, and I zoomed-in at around 800 per cent and used a soft-edged eraser on about 50 per cent opacity. Trace it along the edge of your outline, making sure you're in the correct layer. The size of the image will determine the pixel-width of the eraser. The smaller the file size the smaller your eraser needs to be. It's a question of trial and error.

- When you've finished refining the mask, choose Save A Copy from the File menu and choose the TIFF format. This will collapse layers into one and save the combined image while preserving your layered version. Now you're ready to print.





# how to:

# Mac OS X



# Make OS X feel like an old friend

Customize the beta to act and feel more like Mac OS 9. Gil Loyola and Jonathan Seff

Mac OS X illustrates Apple's readiness to embrace a modern operating system. With features such as protected memory, pre-emptive multitasking, and the powerful Unix just below its surface, OS X provides functionality that OS 9 and its predecessors can't touch.

But in reworking Mac OS from the ground up, Apple turned the way you interact with the operating system inside out. The user interface is now a very different — some might say frightening — thing.

Fortunately, there are ways to make OS X look, feel, and act more like the Mac OS you've been using since the days when Thatcher was in Downing St, and most things cost, well, less than they do today.

We'll show you how to make OS X a bit more familiar by automating the log-in process, changing the look of Finder views, and more. **MW**



## 1

**Automate the log-in process** OS X requires you to log in each time you boot-up your computer. But just as you save your passwords for email programs, you can automate the log-in process as well.

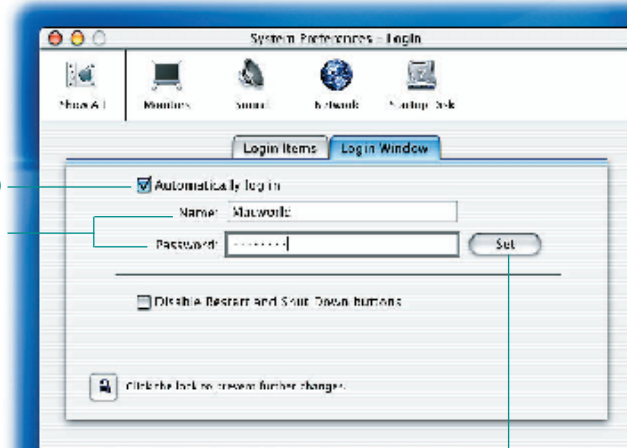
### A



■ When starting up OS X, you're confronted with the new Login screen (A). Users of OS 9's Multiple Logins feature may be used to something like this, but if you're the only one who uses your Mac, this added security measure can be more trouble than it's worth.

### B

### C



### D

■ Choose System Preferences from the Desktop menu. Click on the Login panel, and choose the Login Window tab. From there, select the Automatically Log In option (B) and enter your name and password (C), just as you would when logging in to OS X. Finally, be sure to click on the Set button (D); if you don't, your information will not be saved. Now you won't be prompted to log in every time you start your Mac.



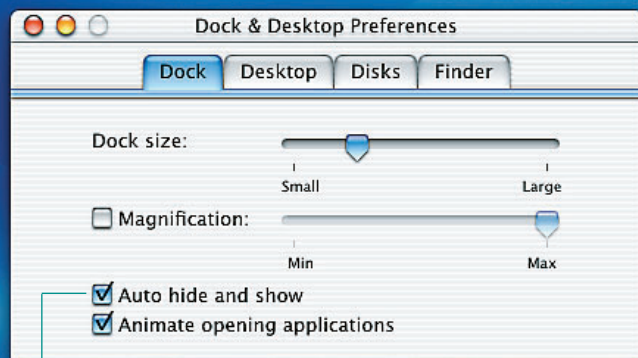
2

**Hide the Dock** The new Dock feature in OS X is a convenient way to see what applications are running, and an easy place to store oft-used (or minimized) files. But you might not want it around – for a number of reasons. In addition to having an unfamiliar look, the Dock slows down scrolling in Classic applications.



A

■ OS X's Dock (A) is similar to Windows' Taskbar. It shows open programs and holds items such as documents and sound files. If you don't like it, you can hide it.

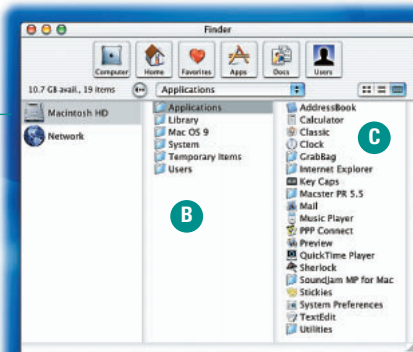


B

■ Select Dock & Desktop Preferences from the Desktop menu, and choose the Dock tab. Next, select the Auto Hide And Show option (B). Now when you move your mouse pointer over the bottom of your desktop, the Dock will pop-up temporarily – you'll need it for dragging items to the Trash, which is at the right end of the Dock – but will disappear when the cursor moves away.

3

**Change the View setting** OS X's Finder has several viewing options, and the newest is a stranger to most Macintosh users. Its hierarchical interface is vaguely similar to that of Windows. Luckily, Apple responded to early complaints and added two more-familiar options.



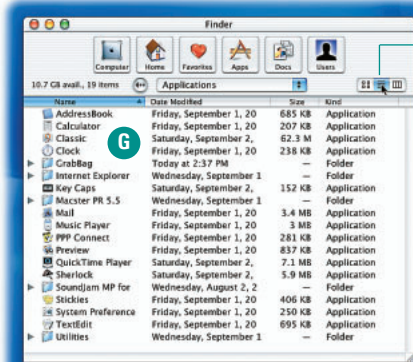
■ In Apple's newest Finder view, clicking on your hard drive's icon (A) displays a vertical list of its contents in a box on its right (B); clicking on a folder in that list opens another box farther right (C); and so on. This makes your location easy to figure out at a glance.

D



E

■ If you prefer a more conventional look (D), select the Icon view (E) from the Finder tool bar.



F

■ You can also choose the List view (F), to see folders and programs (G) as they would appear in OS 9's List view. In case you were wondering, OS 9's Button view is deleted.

4

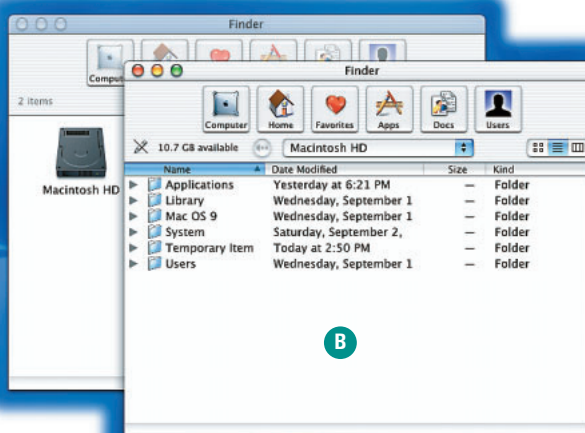
**Open a new window** In Mac OS X's Finder, windows function differently – only one window's contents is visible at a time. Double-clicking on a folder, for example, replaces your window's contents with those of the folder you just opened. But there's a quick fix.

■ Viewing the contents of only one folder at a time is something you can get used to. But this amnesiac feature can make it difficult to remember where you came from, and to navigate around your computer. In the Dock & Desktop Preferences window, click on the Finder tab. Select the In A New Window radio button (A).



A

■ Voilà! Windows will revert to their familiar stacking behaviour (B). You can even reverse the settings for individual folders, by holding down the option key while opening a window.

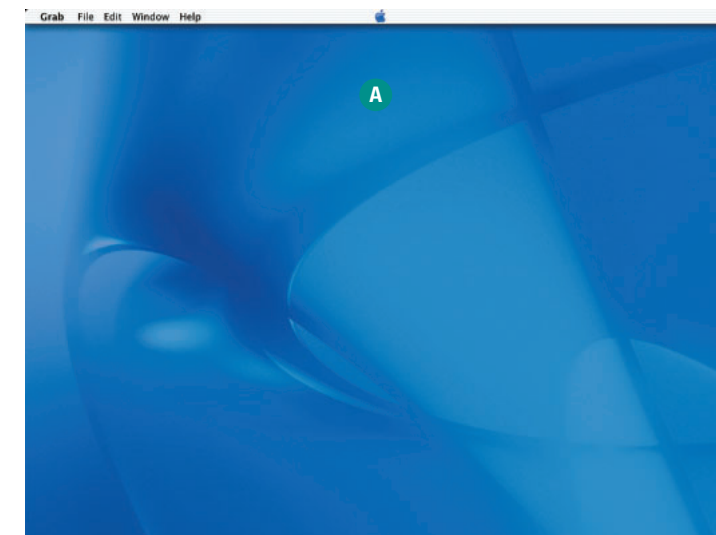


B

5

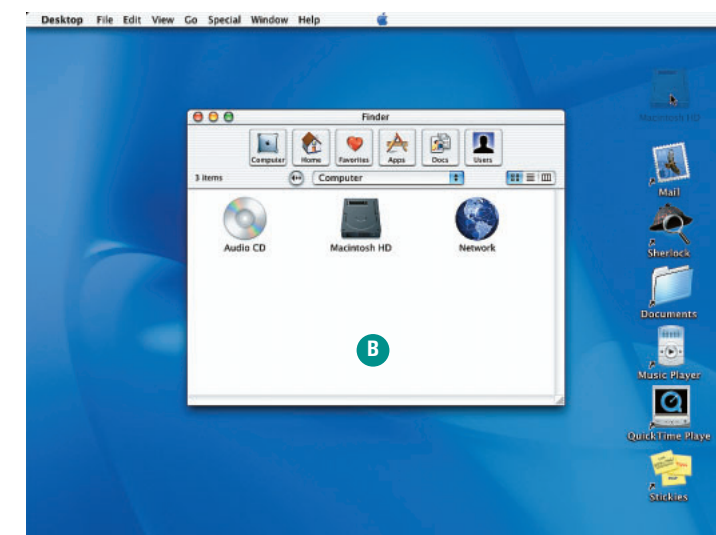
**Drag Icons to the desktop** One thing you'll notice about the OS X desktop is the absence of icons. Except for the Dock, the desktop is completely empty. But you can make your desktop look and act like cozy ol' Mac OS 9.

■ Over the years, we've got used to dropping files and folders – or their aliases – onto the desktop. But in OS X, not even the hard drive is accessible from the desktop (A) on start-up.



A

■ To put an alias of your hard drive on the desktop – where it belongs – simply drag-&-drop it from the Finder (B). To get an alias of a folder or program onto the desktop, drag the icon while holding down the ⌘ and option keys. Unfortunately, you can't bring the Trash icon to the desktop – Trash is accessible only through the Dock.



B



# AirPort a world beta

Get AirPort working on Macs loaded with OS X Public Beta. By Raven Zachary

Since the release of the Mac OS X Public Beta, my PowerBook has been without an Internet connection when running the beta. Like most AirPort users, I have grown dependent on wireless technology. It has entirely redefined my relationship with my computer – and the missus.

No longer am I relegated to working in the corner of my home next to the cable modem. Now I can work anywhere in the house, and actually spend some time with my wife after the kids have gone to bed, even if I am only half present.

## Looking for a hack

I installed the Public Beta the moment I received it. After such a long wait it was an exciting moment. However, since I am a PowerBook user, I was severely limited in what I could accomplish. A computer without an Internet connection simply isn't useful to me. I stopped using the Public Beta after a day or

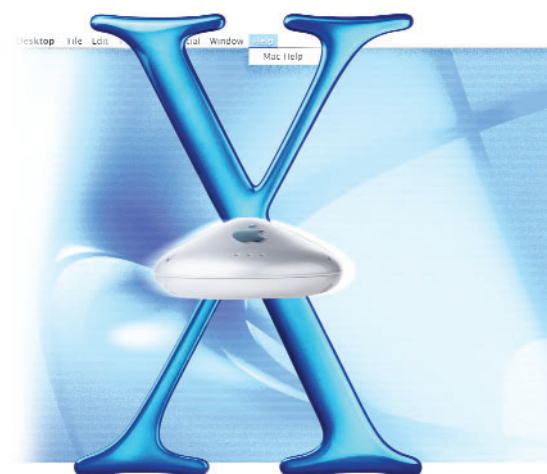
two, hoping that a clever developer or a source inside Apple would disclose an AirPort hack. Until then, I went back to Mac OS 9.

Surprisingly, Apple did not make AirPort a high priority for the Public Beta. Apple provided limited AirPort functionality in Mac OS X Developer Preview 4, but was uncomfortable providing this in the beta release. We can only assume that the code wasn't ready and Apple decided to exclude it.

I was pleased to find an AirPort hack recently on a Mac OS X Message Boards. The source seems to be within Apple.

This hack isn't for everyone. It works on new Apple hardware with AirPort cards only. If you're using a Wall Street PowerBook with a Lucent card or other wireless card, you are out of luck.

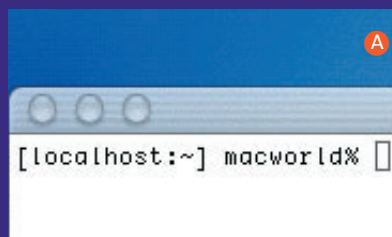
People have also had problem with password-protected, closed, and encrypted AirPort networks. You will likely need to turn these off before getting it to work. Many people also report problems using UDP, FTP, and SMTP.



## Step-by-step installation guide

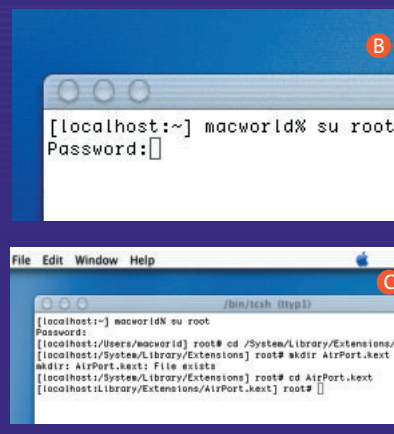
Here's how to get online using the Mac OS X Public Beta and AirPort.

**Step 1.** You will need to log-in as "root" to ensure that the file you create is owned by the proper user. Open a Finder window, click the Apps button in the Finder Toolbar, and double-click the Utilities folder. Inside the Utilities folder is a program called Terminal. This gives you access to Mac OS



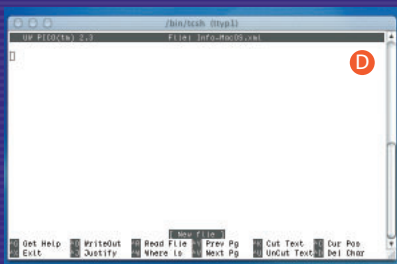
X's Unix command line (A) (see Inside OS X: Unix commands). Run the program, and from the Terminal window, type "su root". The system will ask for your primary password (B). Once entered, the system will recognize you as the root user.

After successfully logging in as the root user, enter the command "cd /System/Library/Extensions/". This will change the directory in which you are located. From here, you will create a new folder for your AirPort hack file. Enter the command "mkdir AirPort.kext". This will make a new directory titled AirPort.kext. Move inside your new directory by entering the command "cd AirPort.kext" (C). You are now ready to create the necessary file.



continues page 108

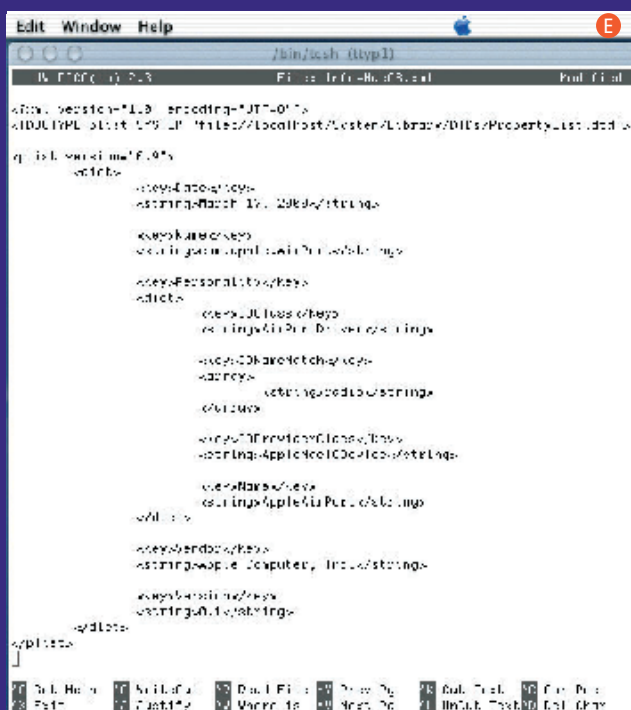




**Step 2.** We will be using a simple Unix editor called pico (D) to create the file. To begin, enter the command "pico Info-macos.xml".

Now, copy the following piece of code, following the layout as shown in (E)...

```
<?xml version="1.0"
encoding="UTF-8"?>
<!DOCTYPE plist SYSTEM
"file:///localhost/System/Library/
DTDs/PropertyList.dtd">
<plist version="0.9">
<dict>
<key>Date</key>
<string>March 17,
2000</string>
<key>Name</key>
<string>com.apple.AirPort</str
ing>
<key>Personality</key>
<dict>
<key>IOClass</key>
<string>AirPortDriver</string>
<key>IONameMatch</key>
<array>
<string>radio</string>
</array>
```



```
<key>IOProviderClass</key>
<string>AppleMacIODevice</stri
ng>
<key>Name</key>
<string>AppleAirPort</string>
</dict>
<key>Vendor</key>
<string>Apple Computer,
Inc.</string>
<key>Version</key>
<string>0.1</string>
</dict>
</plist>
```

Make sure that none of the XML lines wrap. This will prevent the hack from functioning. The second line is the most likely to wrap due to its length.

To save the file, type Control-X and save the modified buffer using the Y key. The file has now been created and you're ready to reboot.

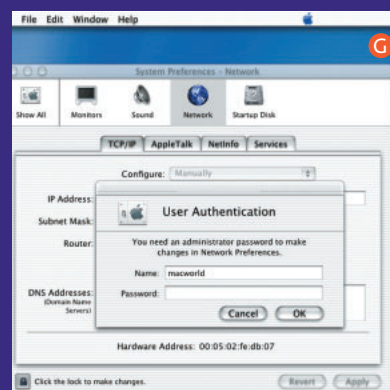
**Step 3.** After Mac OS X has rebooted and you have signed-in, run the System Preferences application (F) in the Dock and select Network. In the bottom left-hand corner of the System Preferences window will be an icon for a lock with the text "Click the lock to make changes.". Do this, and enter a username (and password) for

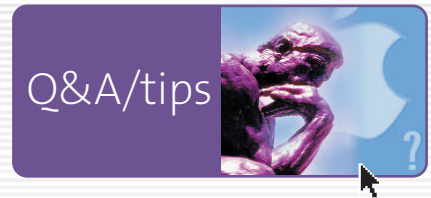
someone with administrative access to the machine (G).

**Step 5.** You'll now see a second network device titled "Ethernet Card Port 1" under the TCP/IP Tab. This is your AirPort card. Select it and configure your Card for either DHCP or a Static IP Address. You can ignore "Built-In Ethernet Port" or you may also wish to turn off the Built-In device altogether.

**Step 6.** Reboot to make your new Network settings active. This will provide AirPort support using the Classic environment, as well. You will still be able to use the AirPort Admin Tool via Classic, but you can also use the Java-Based AirPort Base Station Configurator

This six-step process should give you limited AirPort support. At some point, Apple will release better AirPort drivers for Mac OS X, but it's not clear if this will have to wait until the final release or whether it will come with a Public Beta update. Until then, enjoy AirPort on Mac OS X Public Beta. I certainly do.





- Zip System-saver • Slide shows • QT sound-effects

# Q&A/tips

Handy Mac tips and readers' questions answered. By Christopher Breen

## Easy Office 98 & 2001 uninstall

**TIP** Some users have reported that their Macs misbehave if both Office 98 and Office 2001 are installed. Others have recommended that removing Office 98 can alleviate the problem. Microsoft provides a utility for doing just this at: [www.microsoft.com/mac/download/default.asp?area=02001](http://www.microsoft.com/mac/download/default.asp?area=02001). Once there, click the Office 2001 tab. On this same page of Office Extras you'll find Entourage Value-Add Scripts and Office QuickView – an Office component that provides quick access to Entourage tasks, addresses, and contacts and Office projects via a control-strip module.

## Mac digital slide-show wish

**Q** I would like to organize my digital photos into a slide show to display on a PowerBook. Jeff O'Dea

**A** Although you'd like to capture images that appear to be static, the process entails pulling those images from a moving videotape – and you, therefore, require a video-editing application. Fortunately, this will cost you nothing. Apple supplies a solution for anyone with a FireWire-equipped Mac: iMovie, Apple's entry-level digital video-editing program.

To begin, ignore Apple's system requirements – yes, iMovie will run on a PowerBook – and download a copy of iMovie from Apple's Web site ([www.apple.com/imovie](http://www.apple.com/imovie)). Connect the FireWire cable from your camcorder to your FireWire 2 Go card (£89, AM Micro, 01392 426 473), launch iMovie, rewind the camcorder's tape to the location of the picture(s) you want to import, and press iMovie's Import button. As new images appear in iMovie's Viewer window, they will find a place on iMovie's shelf – the storage location for movie clips and images. To convert these frames into PICT or JPEG files, simply move your cursor to the shelf, click on the image you want to convert, and select Save Frame As from the File menu. Now select either PICT or JPEG in the Format pull-down menu, name the file, and click on Save (see "Picture perfect", above right).

There's also a non-FireWire solution. Although iMovie won't work without FireWire, I have a free alternative: Strata's VideoShop 4.5 demo ([www.strata3d.com/downloads/downloads.html](http://www.strata3d.com/downloads/downloads.html)) – a demo that doesn't let you save video clips, but does let you save frame captures as PICT files. To use this demo, you need a way to get video into your Mac – through the video-input ports on AV Macs; a video card that features a video-input port, such as ATI's Xclaim VR 128. For UK distributors, go to [www.ati.com/na/pages/buy\\_ati/consumer/pc/europe\\_retail.html#uk](http://www.ati.com/na/pages/buy_ati/consumer/pc/europe_retail.html#uk). Or, go for a USB video-capture device, such as XLR8's iView (£99, Interex, 01923 266 400). Because these video cards and USB devices usually ship with some variety of video-editing software, you may not need to use the VideoShop demo.

## It all adds up

**TIP** If you need a calculator better than the meagre number-cruncher included with the Mac OS, take a long look at James Thomson's PCalc. This is a scientific calculator with support for hexadecimal and binary calculations. It's compatible with Macs running OS 8 or later and included with the download is a version that works natively with Mac OS X. PCalc costs \$10, from [www.macdownload.com](http://www.macdownload.com).

## Target Disk Mode bullseye

**TIP** Target Disk Mode is a way to mount one Mac's hard drive on another Mac. Here's how to do it on a FireWire-equipped Mac. First, turn off the target Mac and connect it to the host Mac with a six-pin-to-six-pin FireWire cable. Hold down the T key while starting up the target Mac – this puts the Mac into



## Picture perfect

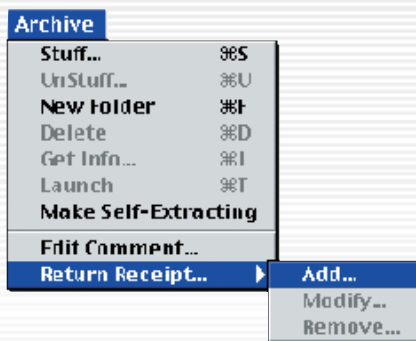
With iMovie's Save Frame As command, you can transfer still-images from a digital camcorder to a Mac. Movie frames can be converted into PICT or JPEG files via the Save Frame As option in the File menu. These can then be used as components in a slide show.



## Number cruncher

The limited Mac OS calculator can be replaced by the \$10 PCalc, which offers hexadecimal and binary calculations.





#### Open and shut case

StuffIt Deluxe 6.0 has a Return Receipt feature. If the sender highlights this option before emailing his or her archive, a message will appear on the recipient's machine, asking if they'd like to send an email indicating the archive has been opened.

Target mode. When the FireWire icon appears on the target Mac, let go of the T key. You should now see the target Mac's drive icon on the host Mac's desktop. To get out of Target Mode, simply drag the target Mac's hard-drive icon to the host Mac's Trash and press the target Mac's Power key. In Target Mode you can boot from the target Mac's drive as well as copy files from the target disk to the host.

#### Outlook Express spam-buster

**TIP** To delete a series of non-contiguous messages in Outlook Express – useful when your In box is full of spam – simply Command-click to select files and then hit the delete button.

#### Zip disk System-rescue trick

**Q** I'd like to create a startup Zip disk for when my Mac won't boot. Unfortunately, I have a System Folder so jam-packed with gunk that it won't fit on the Zip. How can I get these items to include on such a disk.

Ken Schneidman

**A** Well, Ken, you wouldn't have to worry about getting caught in this particular devil's bargain if you had a recent copy of Iomega's Tools application. Iomega has done most of us a favour by adding a Rescue Disk component to its Tools utility. You just insert a Zip disk and click on the Rescue Disk icon,

and Rescue Disk installs a minimal System Folder on your Zip disk. Rescue Disk will also install a copy of Apple's Disk First Aid or, if you ask the program to do so, transfer a repair utility from your Mac to the Zip disk. If you choose to install a third-party repair utility, however, make sure to include any necessary support files; recent versions of Norton Utilities require the Norton Shared Lib extension, for example. You can find your copy of Iomega's Tools (part of the free IomegaWare) at

[www.iomega.com/software/featured/ioware25\\_mac\\_reg.html](http://www.iomega.com/software/featured/ioware25_mac_reg.html).

While everything may be stardust and golden for Ken, others with brand-new, Zip-less Macs – the new iMacs, Cube, and Power Mac G4s – may require a different kind of rescue disk. As we go to press, you can't boot these Macs with recent copies of diagnostic and repair utilities such as Symantec's Norton Utilities (£99, Computers Unlimited 020 8358 5857), AIsoft's Disk Warrior (£55, Softline 01372 726 333), and MicroMat's TechTool Pro (£95, Softline, 01372 726 333). Although you should be able to purchase a compatible CD-ROM for all these products by the time you read this, users who have a CD-R burner will find it less expensive to simply create a bootable CD-R and copy their diagnostic and repair utility of choice to it.

#### Blessed relief

**TIP** Mac OS 9's System Disk control panel and OS X's System Preferences application – programs that allow you

to choose whether to boot a Mac from a volume running Mac OS 9 and another running Mac OS X – don't distinguish between "blessed" and "unblessed" System Folders. Instead of providing you with a list of only those System Folders that carry the Mac smiley face icon on the folder (blessed folders), all System Folders (including Previous System Folders) appear as selectable options. It's not a good idea to select a System Folder other than the one that's officially blessed. Fortunately, it's easy to tell the blessed from unblessed. If you see an entry in System Disk or System Preferences that looks like this: My Mac: System Folder you're okay. If the entry reads: My Mac: Previous System Folder, stay away!

#### Keeping the Net alive

**TIP** Aladdin Systems has recently released StuffIt Deluxe 6.0. One of the features touted in the latest release is Return Receipt, something that some may like, and others may not. Here's the gist: Joe Bloggs creates an archive with the Return Receipt option enabled and emails that file to Mary Jones. When Mary unstuffs that archive, a message appears asking if she'd like to send Joe an email message, indicating that she's opened the archive. Mary either agrees to do so or tells StuffIt to... stuff it.

The only way this feature will work on the recipient's Mac is if that recipient has a copy of StuffIt Expander 6.0 – or StuffIt Deluxe 6.0 – (free and £65 respectively, [www.aladdinsys.com](http://www.aladdinsys.com)) installed on his or her Mac. If this feature appeals to you, you can download your copy of StuffIt Expander 6.0. If you don't care for this feature but would like StuffIt Expander 6.0 anyway, just select Preferences from StuffIt Expander's File menu, choose the Expanding option, and check the Ignore Return Receipt requests option.

#### AOL Instant Messaging fix

**TIP** You've likely faced this situation with AOL's Instant Messaging service: You've logged onto AOL and stepped away from your computer for a few minutes. While away, someone sends an Instant Message which, because you're off raiding the fridge, you don't have the opportunity to answer. Upon your return you see an Instant Message window that contains something like:

*Hey, Martin, how you doin'?*

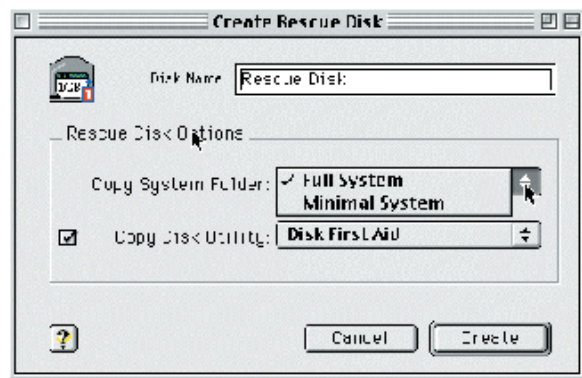
*Hello? Hello?*

*Martin, I know you're there!*

*Answer me, you moron!*

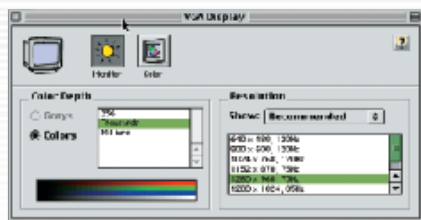
Wouldn't it be great if you could launch a utility that automatically responded with something like: "Sorry, I've stepped away from my computer for a moment. Please be patient and I'll return shortly." Or better yet, wouldn't it be nifty if you could create different responses for different users – one for your family, another for your friends, and yet another for people you owe money to? Thanks to Alex Rampell's \$20 shareware utility, Instant Answer 2.0, you can. Just run the Instant Answer installer, restart your Mac, and activate Instant Answer from its menu when you next launch AOL. Check it out at <http://rampellsoft.com>.

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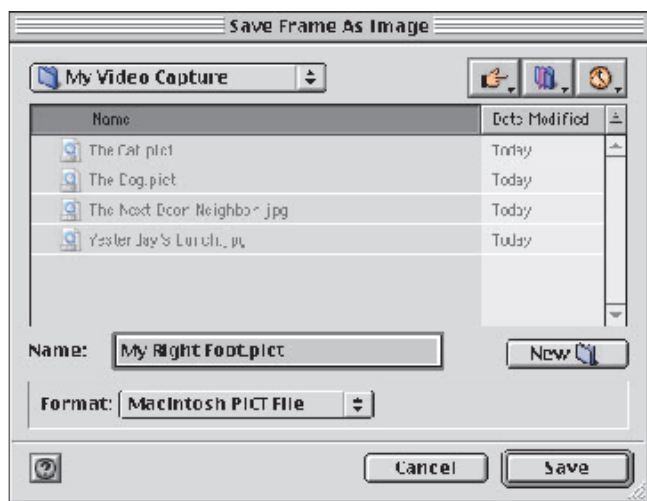


#### Iomega Tool of the trade

A new addition to Tools in IomegaWare is Rescue Disk. This offers two options – a minimal or full system rescue. With Minimal System rescue, only the system files required to boot the system will be copied. With Full System, the entire System folder is copied to the target rescue disk.



**TIP** To open the Monitors control panel when using a new Apple Studio Display, hit the software launch button on the front of the display.



#### Picture perfect

With iMovie's *Save Frame As* command you can transfer still images from a digital camcorder to a Mac.

#### DVD-RAM glitch workaround

**TIP** Apple advises us that when you eject a DVD-RAM disc from a Power Mac G4 running Gigabit Ethernet, DVD-RAM discs that are subsequently inserted will show the same amount of free disk-space as that first DVD-RAM disc. To remedy this restart the Mac for each new disc.

#### Under the weather

**Q** How can I combine three sound effects – rain, wind, and thunder – to create the perfect storm in a QuickTime movie?  
Chris Higgins

**A** If you have Apple's QuickTime Pro (£30, [www.apple.com](http://www.apple.com)), it's a cinch. Launch QuickTime Player to create a new movie.

From the File menu, choose Import and select one of the sound effects you'd like to hear throughout the soundtrack – the rain effect, for example. If you want the sound to play longer, press **⌘-A** to select the sound, **⌘-C** to copy it, and **⌘-V** to paste that copy at the end of the soundtrack.

Create a new player window and import another sound-file – the wind sound. Select and copy this sound, then select the window with the rain soundtrack. Click on the point within the rain soundtrack where you'd like

to insert the wind sound, hold down the option key, and choose the Add command from the Edit menu. The wind sound is now layered on top of the rain sound. Repeat this process to add the thunder sound. You can change the volume of each sound individually by choosing Get Info from the Movie menu and selecting the first soundtrack (conveniently labelled Sound Track 1) from the left pull-down menu. Next, choose Volume from the right pull-down menu, and adjust the Volume slider

up or down (see "Rainmaker"). Do the same for the other soundtracks until you have a pleasing mix. Save the movie, and you're done.

#### Internet Explorer OS X bug fix

**TIP** While running Internet Explorer under the Mac OS X Beta, you may wonder why the files you've supposedly downloaded to the Finder are nowhere to be found. This is more Beta behaviour, and something Apple and Microsoft are working on.

In the meantime, you can find these files by

choosing the Download Manager from IE's Tools menu, double-clicking on the required file, and, in the resulting window, clicking the Reveal in Finder button. A Finder window with that item in will appear.

#### Cube hub fix

**TIP** The G4 Cube's keyboard and speakers are happiest when plugged directly into the Cube's USB port. This is all well and good – unless you have other USB peripherals you'd like to use with regularly. The speakers won't work with a USB hub – if you try, you'll receive an error that the hub doesn't deliver enough power – but you may be able to use the keyboard with a powered hub. Try plugging an Apple Pro Keyboard into a four-port powered hub, such as the Swann Mini-Hub (£25, Computers Unlimited, 020 8358 5857).

#### Video-CD on Mac

**TIP** If, while playing DVD movies on your Mac, you notice large areas of pixellation, try the following: increase the screen resolution to 800-x-600 pixels and colours to Millions in the Monitors control panel. If you're viewing the movie on an external display, select a resolution of 720-x-480 pixels. Select Normal Size rather than Full Screen playback.

#### iMovie alert

**TIP** If you've downloaded a copy of iMovie 2 (£35, [www.apple.com](http://www.apple.com)) from the Apple Store and noticed that only two files appear in the iMovie 2 folder – iMovie Web Read Me and "Late Breaking News it's because you're running Mac OS 8.6. iMovie 2 requires Macs to run on OS 9.0.4.

#### Multiple Users conundrum

**TIP** Users of Mac OS 9's Multiple Users may have been perplexed when folders named users or Users disappear with Multiple Users switched on. The Mac OS treats so-named folders as its own Users folder – which is where the OS stores users' documents and preferences. For security reasons, this folder is hidden.

#### OS X adverse to ADB

**TIP** Applications that attempt to communicate directly with an ADB device – an ADB dongle, say – won't work with Mac OS X Beta. Boot using Mac OS 9 instead.

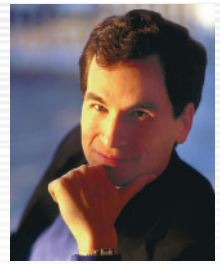
#### Monitor magic

**TIP** In QuarkXPress, you can avoid having to move to the page fringes to pick-up and move guides by holding down **⌘** and clicking on any given guide.

Macworld's deputy editor David Fanning and contributing editor Christopher Breen answer readers' questions and select reader-submitted tips for this column. Send your question or tip (include your address and phone number) to David Fanning, Q&A, Macworld, 99 Gray's Inn Road, London WC1X 8UT. You can also send email, marked Q&A in the subject line, to [qanda@macworld.co.uk](mailto:qanda@macworld.co.uk). We pay £25 for each tip published here. We cannot make personal replies, so please do not include a stamped-addressed envelope.



**DAVID POGUE** is the author of *iMac for Dummies* (IDG Books Worldwide, 1998) and the *Great Macintosh Easter Egg Hunt* (Berkely Books 1998). He also wrote *Macs for Dummies*, fifth edition, updated for Mac OS 8, *The Weird Wide Web* (IDG Books Worldwide, 1997) and *The Microsloth Joke Book* (Berkeley, 1997). His most recent books are *Mac OS 9: The Missing Manual* and *iMovie: The Missing Manual* (both Pogue Press, 2000).



## One careful owner

**C**ongratulations! Welcome to the public test-drive of Car OS X. As you know, we at Apple Automotive generally work the bugs out of our new car-designs on a private track with crash-test dummies. But now, for the first time, we've decided to let you – our living, breathing public – pay to help us discover the design defects in this brand-new concept car.

We think you'll find Car OS X, even in its prototype form, to be the most attractive, speedy, and stable vehicle available today. If this new design proves successful, we have no doubt that Microsoft Motors will be scrambling to imitate it for years to come. Before you begin your test drive, read this booklet to learn how Car OS X differs from the cars you're used to (henceforth called Classic cars).

### Parking tips

Do not attempt to park Car OS X until you are sure you can meet the minimum storage and fuel requirements. Car OS X should be filled with 128 gallons of gas, and it requires a garage with at least 5,000 square feet. (TIP: You can keep your old car in the same garage, but only if you first partition the garage using the Home Depot Temporary Wall utility).

### Inside the car

You may notice that the interior of Car OS X is strikingly clean and bare. We've done away with confusing storage cubbies such as the glove compartment, trunk, cup holders, and side pockets. Instead, whenever you'd like to use an object inside Car OS X – such as a map, soda can, or food wrapper – simply drag it down onto what's called the Floor. Your belongings will remain fully visible on the Floor at all times.

As you put more and more items onto the Floor, previously Floored items move aside to make room. If the Floor gets very cluttered, your belongings will shrink to fit within the Floor's space. (TIP: If you're having trouble identifying an individual object when your Floor has become full, simply slide your foot through the items on the Floor.

As you disturb the other items lying there, you can rotate the object in question enough to read its label, if available).

### The Car OS X window-control scheme

When he unveiled Car OS X at the Carworld Expo last year, Apple chief design officer Steve Jobs described the confusion most car owners feel when confronted with the chaos of multiple open windows. For this reason, your new Car OS X vehicle only lets you look out of one window at a time. If you've been looking through the windshield, you can look out a side or back window simply by double-rapping on it. The windshield will disappear, and the window you rapped on will become available. (TIP: By pressing the option pedal as you double-rap a window, you can look through more than one window.)

### Driving Car OS X

You'll discover that Car OS X gives you an extremely smooth ride; in fact, because it's based on a powerful BSD 32-valve engine, it features full crash-protection. Even if bad paving causes another car on the road to crash, you can continue driving Car OS X, unaffected.

Note, however, that Car OS X is crash-proof only when you drive on roads that have been specially repaved (Carbonized). Over 200 municipalities worldwide have announced that they'll Carbonize selected streets for Car OS X compatibility.

But you're not limited to driving on Carbonized roads. Our engineers have built a special Classic Car chassis, right into your vehicle, that allows you to drive on any existing road – even those that haven't been updated for Car OS X compatibility.

To use this feature, simply drive your vehicle onto any older road. You may experience a considerable delay as Car OS X prepares the new chassis, which sits on top of the Car OS X chassis. Bear in mind that, on these non-Carbonized roads, you won't enjoy Car OS X advantages such as crash protection: if a pothole or drunken driver destabilizes your car, your vehicle may well crash. Even then, however, you don't have to buy a new car; you'll just find yourself back in your Car OS X vehicle, at the intersection from which you first turned onto un-updated roads.

### Expiration date

Thank you for participating in the public test of Car OS X. Please note that Car OS X expires May 15, 2001 – if you haven't expired first.

MW

